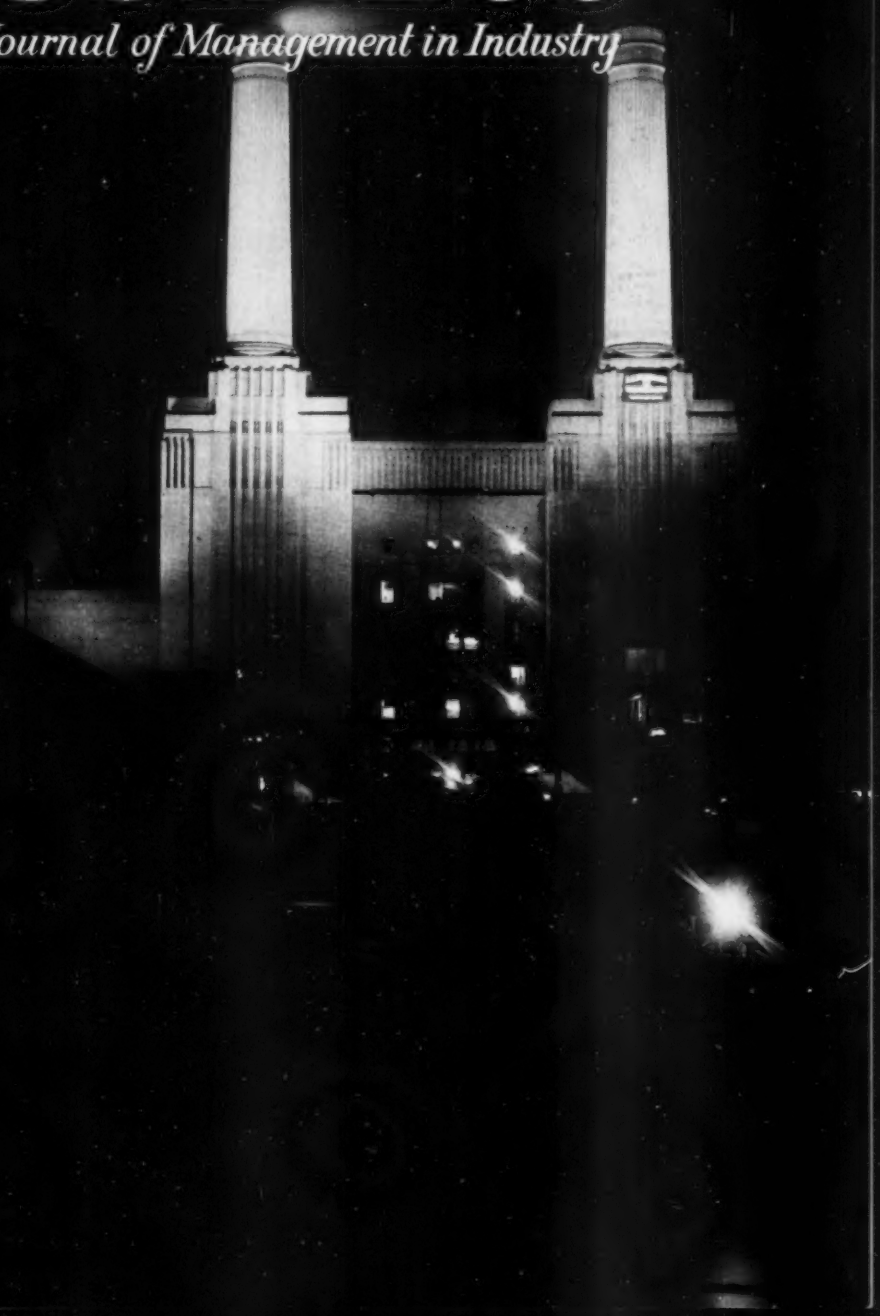
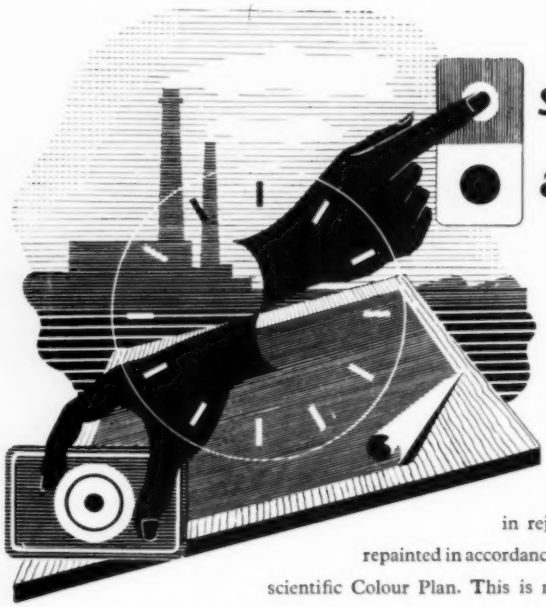
August 1951 2/- Monthly

BUSINESS

The Journal of Management in Industry



PLANNED COLOUR



saves time and motion . . .

One famous company reports a 20% decrease in rejects after machinery had been repainted in accordance with a British Paints Limited scientific Colour Plan. This is not surprising. The eye is the most over-worked muscle in the body: 87% of all impressions come through the eye, and it is the impressions which control most of our working movements. Anything which relieves this strain on the optic nerves combats the chief cause of industrial fatigue—tired eyes. A correct colour plan—created to meet the special needs of your factory—helps fix attention and guide motion and provides welcome relief through restful tones. We have prepared an interesting manual on this subject called "Colour Conscription for Industry." *Free copies are available for Industrial Executives, Architects and Welfare Officers.*

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316

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Dictaphone TIME-MASTER recording on Memobelts is perfect from beginning to end

YOU WANT absolute accuracy — and you get it when you use a Dictaphone Time-Master for your dictation.

There's no fading or distortion of your words when your secretary transcribes. For Memobelt recording is crystal-clear from beginning to end —far, far more dependable than either note-book-and-pencil or any other dictating method.

CYLINDRICAL RECORDING

The reason? Simply — cylindrical recording. Those plastic Memobelts that you can file flat or mail by the dozen in an envelope, are virtually *cylinders* when they are in the machine.

And cylindrical recording means crystal-clear recording from beginning to end; it means constant recording speed; and it means that back-spacing too is uniform—and therefore simpler.

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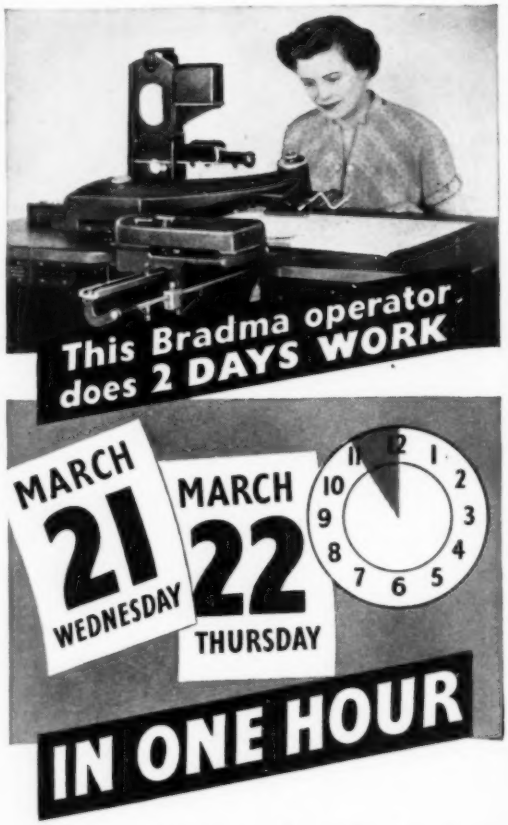

Applied to Wages work the Bradma system will handle the printing of all repetitive detail on pay slips, envelopes, and time cards at the rate of 1,000 to 3,000 per hour according to the machine used—and without risk of error.

The system can be introduced without disorganising your existing methods in any way.

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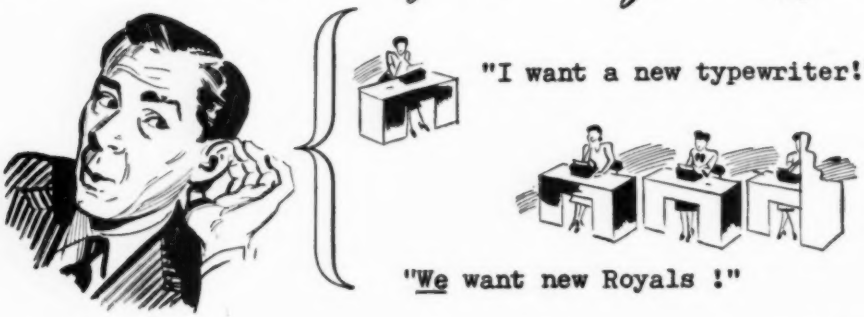

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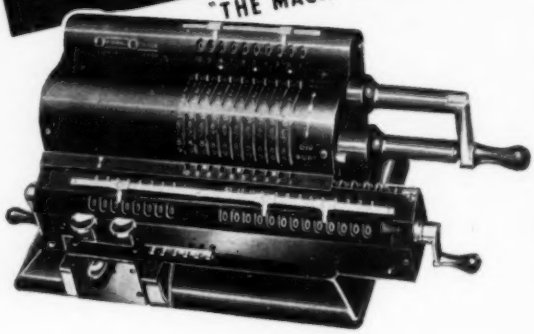

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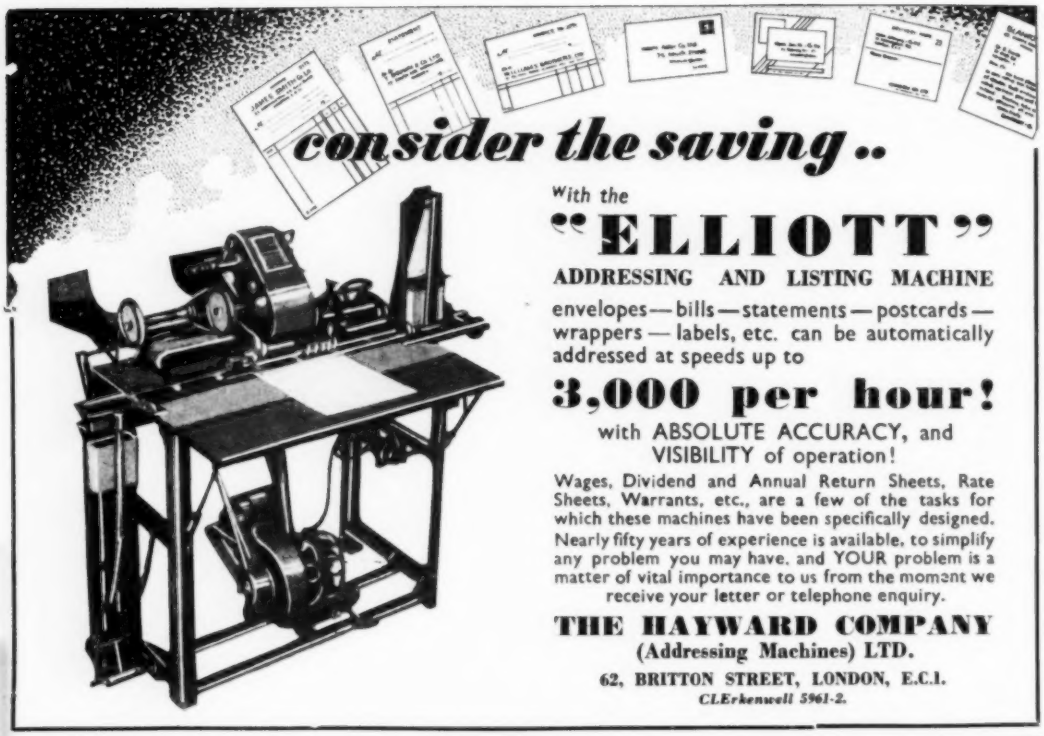

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envelopes — bills — statements — postcards — wrappers — labels, etc. can be automatically addressed at speeds up to

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with ABSOLUTE ACCURACY, and VISIBILITY of operation!

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the 15th . . .

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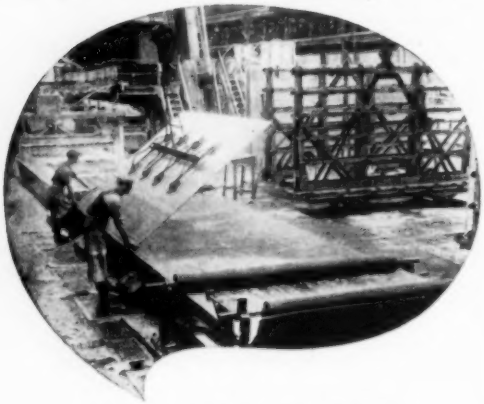

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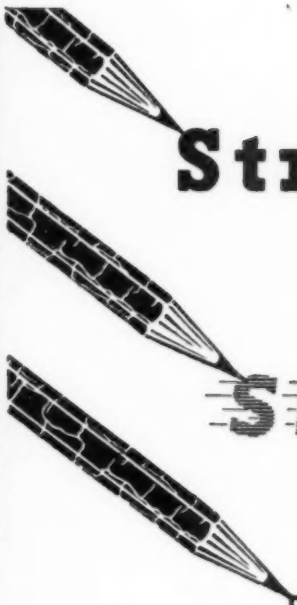

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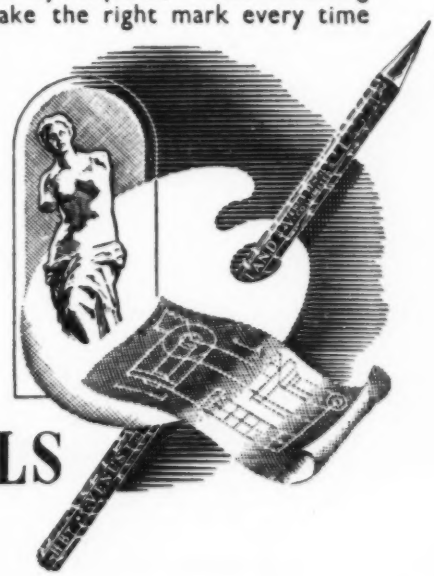
Accurate through and through—graded and tested by experts, Venus Drawing Pencils make the right mark every time

THE PENCIL WITH THE CRACKLE FINISH



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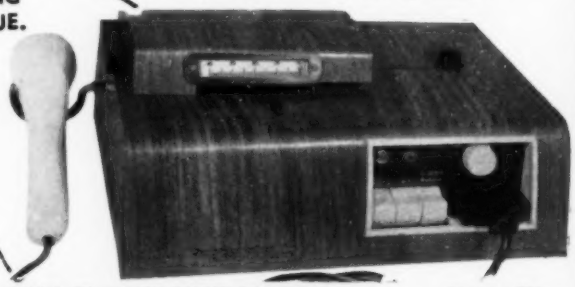

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Available with handy carrying case.

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Fine Furniture

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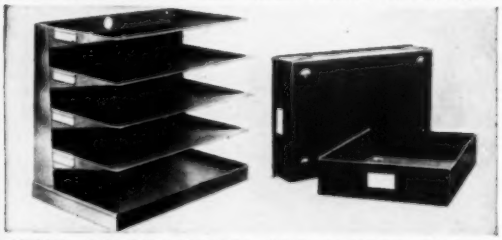

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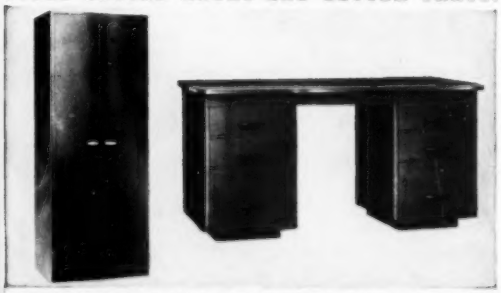

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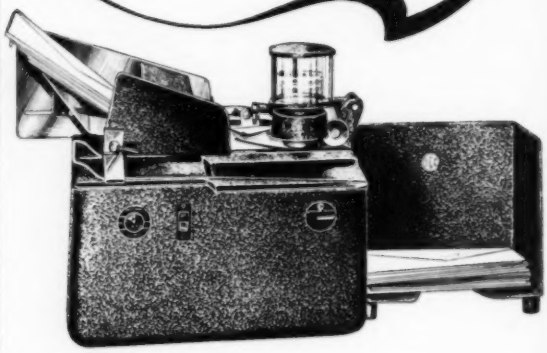

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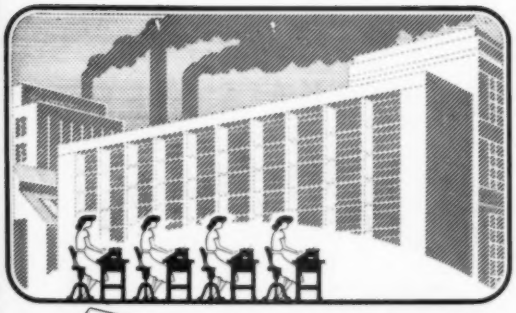
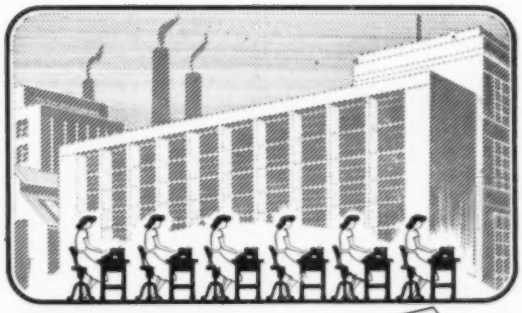
ICC *Makers of letter-opening, envelope-sealing, coin-counting and token-counting machines.*





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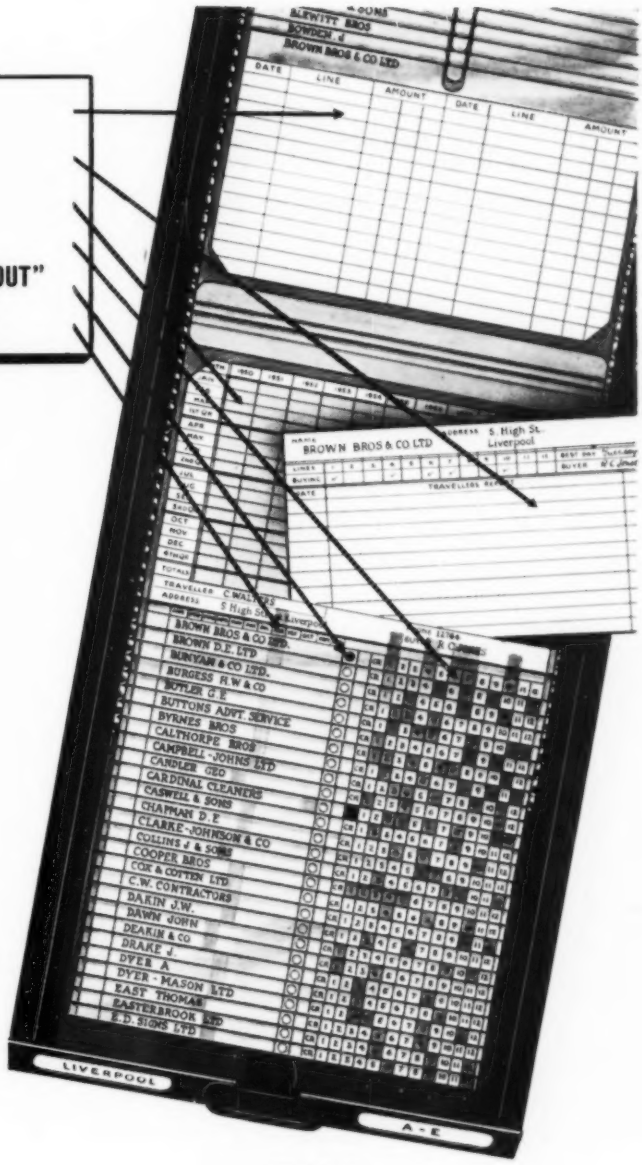

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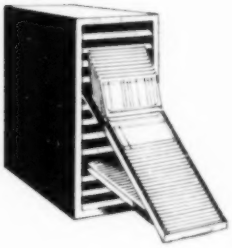

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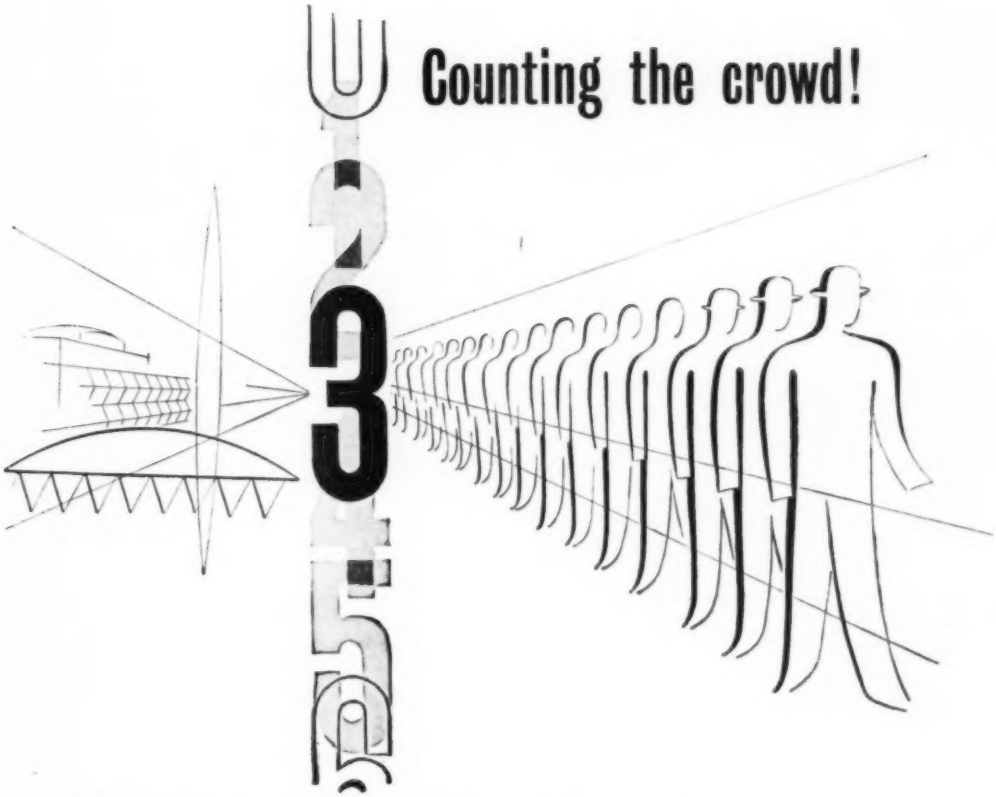

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+ ADDS

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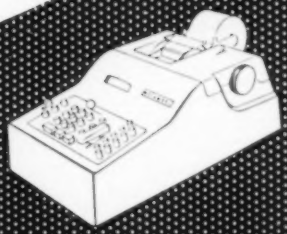

& PRINTS

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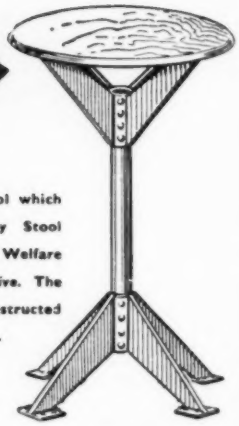
TO-DAY'S MOST INEXPENSIVE

factory stool

THE *Situ*



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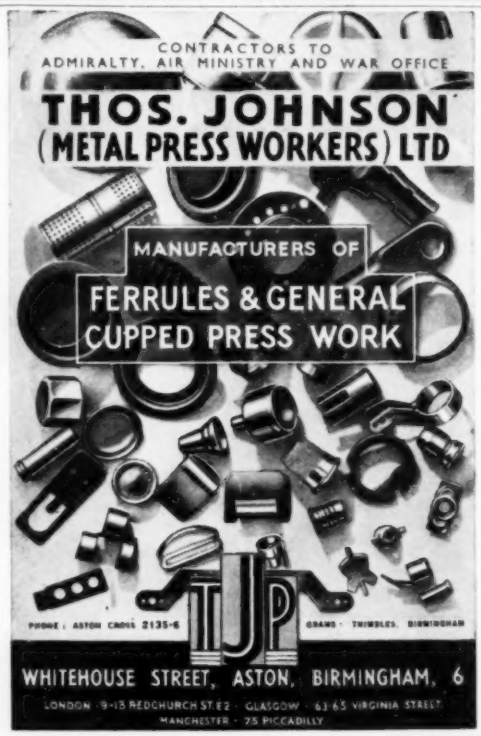

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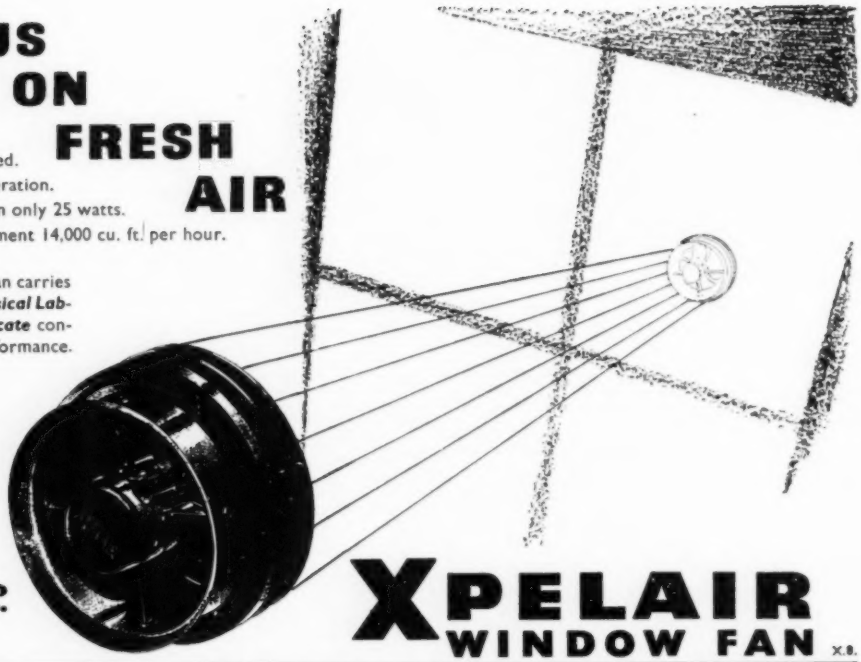

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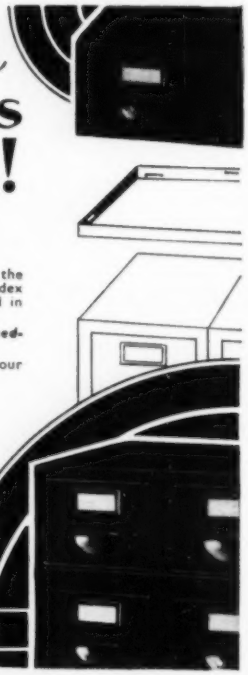
Build your Business with Bisley!



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Instantly interlocking ***and as speedily rearranged.***

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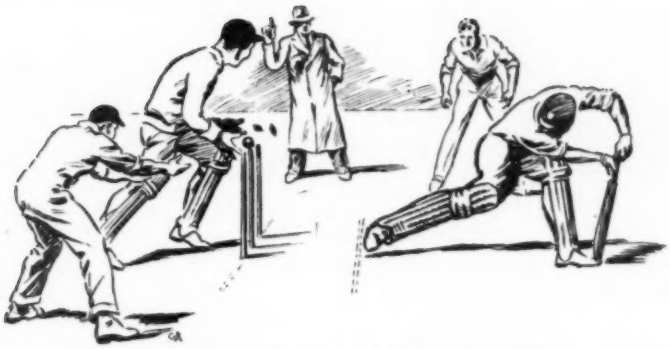
TIME RECORDERS AND COSTING SYSTEMS

Enquiries to:

GLEDHILL-BROOK TIME RECORDERS LIMITED
38 EMPIRE WORKS - HUDDERSFIELD



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Cost of Carbon Paper	10 0 0
Total Stationery Cost (old method)	£434 15 8
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„ „ Carbon Cost	49 4 0
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Total Annual Labour Saving ..	£780 0 0
Total Annual Saving	£915 13 10

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FANFOLD CONTINUOUS FORMS.

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THE TRUCK WITH A HUNDRED USES

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Simply Hydraulics - PLUS
A FEW STROKES OF THE HANDLE

HALVE YOUR HANDLING COSTS

AND DO THE JOB BETTER, CHEAPER, QUICKER AND SAFER

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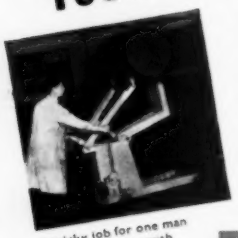

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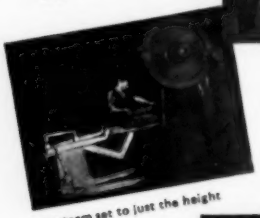
A quicker turn round and no damage to the goods.



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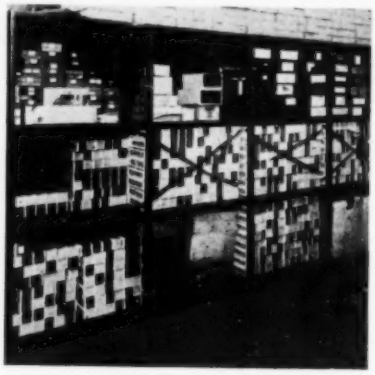

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"... any losing operation is disclosed at once"

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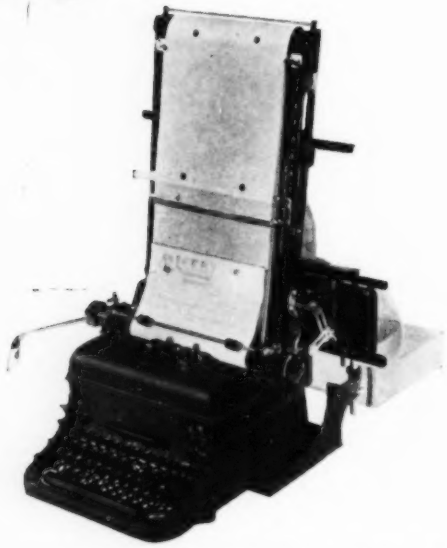

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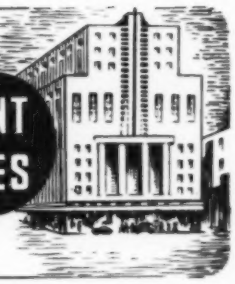

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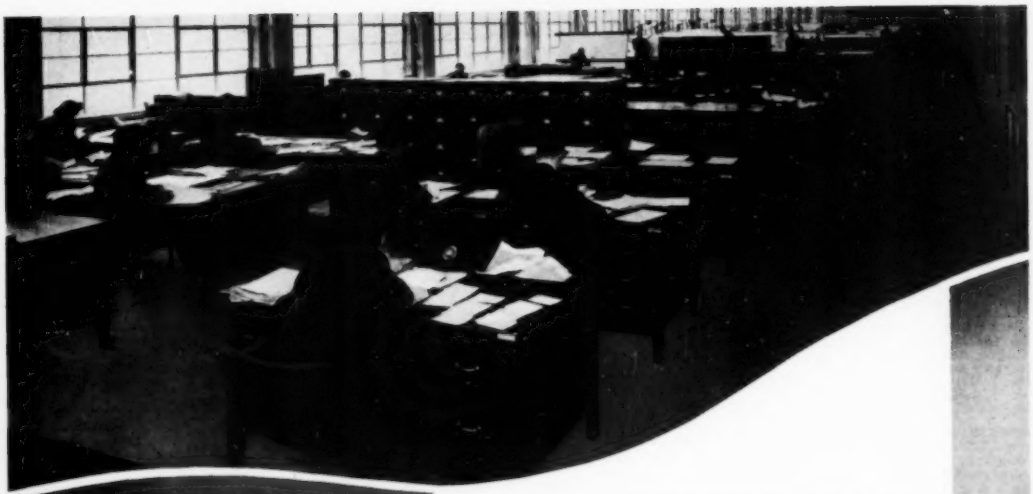

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BUSINESS

The Journal of Management in Industry

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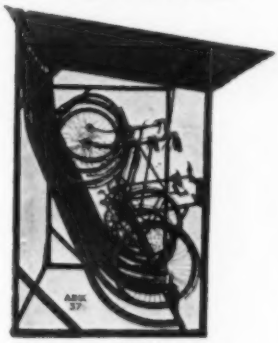

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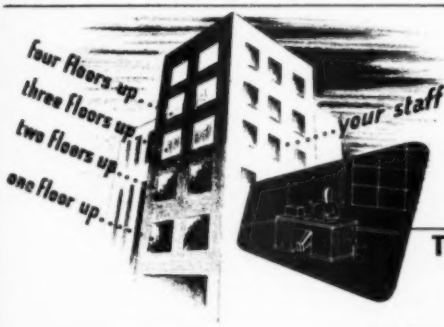

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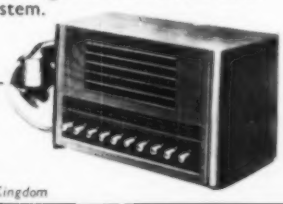

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The MARCH of BUSINESS

OFFICE INDUSTRY LINK-UP

THE amalgamation has been announced of the two major trade associations in the office machinery and equipment fields, the Office Appliance Trades Association (O.A.T.A.) and the Association of British Business Equipment Manufacturers (A.B.B.E.M.) The combined body will be known as the Office Appliance and Business Equipment Trades Association (O.A.B.E.T.A.)

Mr. W. B. Woods and Mr. B. B. Dyer, president and vice-president respectively of the O.A.T.A., have been elected to the same offices in the new organization. Messrs. Peat, Marwick, Mitchell & Co., who acted as secretaries of A.B.B.E.M., become secretaries of O.A.B.E.T.A., and Mrs. S. S. Elliott, M.B.E., secretary and exhibition director of O.A.T.A., becomes exhibition director of the new organization.

The O.A.T.A. was founded in 1920 and incorporated in 1927. Since its formation, it has grown from a nucleus of some 20 firms to a membership of nearly 150; its most spectacular activity has been the organization of the very successful Business Efficiency Exhibitions at Olympia and elsewhere. A.B.B.E.M. was formed in 1944 to further the interests of British manufacturers of business equipment.

With its constant interest in office efficiency, BUSINESS welcomes the fact that, faced as it is with increasing competition in world markets, the office equipment industry will in future be able to speak with a single voice.

* * * *

MR. Punch's sharp eye recently noted a sign of the times in British industry. Britain sent a mixed delegation to the Building, Civil Engineering and Public Works Committee of the International Labour Organization at its third session in Geneva. The Government was represented by two civil servants, Mr. G. R. A. Buckland and Mr. K. Newis. The employers were represented by Mr. N. Longley and Mr. R. Kean, O.B.E. But the workers' delegates were Sir Luke Fawcett, O.B.E., and Sir Richard Coppack.

* * * *

FILMING THE JOB

AN American firm owning a chain of drug stores were anxious to improve the calibre of their managers, so they asked motion study experts to find out just how the average drug store manager spent his time. The results of the investigation would, it was hoped, be useful in framing a suitable training programme.

For the motion study people, this was something of a problem. Normally, they used film in job analysis. All their previous work had been in factories on isolated jobs where the time cycle was short. The whole job could be got within a hundred feet of film.

The drug store manager was on duty for eight hours at a stretch, and to film the whole of his activities during that period was obviously not feasible. They therefore developed a technique of shooting one frame of the film every second, showing the film at normal speed. This speeds things up immensely, though the result is rather like one of the old Keystone comedies.

The great value of the technique, however, is that it gives a permanent record of the job over a long period, which can be analysed, frame by frame, by an investigator at his leisure, and can be kept permanently for record purposes.

In the investigation quoted, the result was startling. It revealed that the average manager, a skilled and qualified pharmacist, spent only about three per cent. of his time on compounding prescriptions. The remainder was spent in paperwork, fetching and carrying, packing and such similar jobs. The management of the company rapidly changed their mind. Instead of introducing a training scheme, they introduced a methods reorganization to take off the shoulders of the manager the many tasks that he was doing that could be done just as adequately by an unskilled assistant.

A copy of a section of the film, together with other motion study films, was shown by Prof. Marvin E. Mundel, professor and chairman of industrial engineering at Purdue University, Indiana, U.S.A., at a conference of senior executives organized by the Anne Shaw Organization recently.

Another interesting application

Doctor Lilian Gilbreth (left), Miss Anne Shaw and Professor Marvin E. Mundel at the Motion Study Conference held in Manchester by the Anne Shaw Organization.

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A LANSING BAGNALL ANNOUNCEMENT

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We are, therefore, glad to announce that we have been able to arrange for a limited supply of this manual to be available in this country, We suggest that you write to us immediately to reserve your copy—the price is two dollars each copy, i.e. 14s.

"MECHANISED MUSCLE"

"Handbook of Material Handling with Industrial Trucks" contains in condensed form a wealth of information summarizing the experience of American users of trucks over the many years that they have been using them. This information is the very latest.

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of film in the United States quoted by Prof. Mundel was its use as a standard in management-trade union negotiations. A series of films are taken of an operative doing the same job at different speeds. These are shown to a joint meeting of representatives of management and the union, and one is agreed to as the standard speed at which a job should be done under day-rate. This film is subsequently accepted in all wage negotiations and disputes as a criterion against which actual performance by the worker must be judged.

* * * *

ANOTHER speaker at the Anne Shaw conference was Dr. Lilian Gilbreth, the originator of motion study in co-operation with her husband, Frank B. Gilbreth, and perhaps better known to the layman as the heroine of the book and film, "Cheaper By the Dozen." Dr. Gilbreth, who was on a short visit to Britain on her way to the International Management Congress at Brussels, was also made the first honorary fellow of the British Institute of Management.

* * * *

FAIR EXCHANGE

TIME was when research work, and the communication of its results, was considered to be the province of the university and the learned society. To-day, that idea is rapidly disappearing. Businessmen are realising that to keep their research work within the firm (even if possible) is not merely anti-social, but blocks their own progress. Hence, progressive firms are exchanging information that their forebears would have considered "trade secrets"—without any one being the worse, and most securing the benefits.

Perhaps the major effort in this direction to date was the four-day international conference on the control of plant pests and diseases organized in July by Plant Protection, Ltd. Some 144 delegates, 89 of them from overseas, assembled at the company's research station at Fernhurst in Surrey. The conference was opened by Sir John Russell, former chairman of the agricultural sub-committee of U.N.R.R.A., and other papers

SALIENT FIGURES OF THE MONTH

	Latest Month	Increase (+) or Decrease (—) on a Month Ago	Year Ago
"BUSINESS" INDICES			
Production (1946=100)	• 142.5	+ 1.2	+ 9.7
Purchasing Power do.	• 110.0	+ 0.9	+ 1.8
MANPOWER			
Total manufacturing industries .. .. (thousands)	• 8,692	+ 16	+ 271
Cotton spinning and weaving do.	• 335.2	+ 0.3	+ 4.7
Coal (on colliery books) .. do.	703	+ 1	+ 3
Reg. unemployed (U. K.) .. do.	240.7	— 39.9	—100.5
PRODUCTION			
Index of production (1946=100)	• 151	+ 11	+ 16
Coal (average weekly output) .. (thousand tons)	4,199	— 406	—178
Steel ingots and castings (do.) do.	305	— 18	— 14
Cotton yarn (do.) .. (million lb)	• 17.73	+ 1.95	+ 2.08
Woven wool fabrics (do.) (million linear yards)	• 37.87	+ 0.57	+ 5.33
Passenger cars (do.) (thousands)	9.54	— 0.06	— 1.16
Commercial vehicles (do.) .. do.	5.19	— 0.18	— 0.36
Permanent houses completed .. .. .. do.	15.86	+ 0.74	— 1.17
TRADE			
Value of imports (£ millions)	† 359.8	+ 21.8	+ 121.2
Value of exports .. .. do.	† 200.0	— 29.6	+ 24.2
Freight train traffic (million tons)	§ 5.38	— 0.11	— 0.24
Retail sales .. .. (1947=100)	150	+ 1	+ 9
FINANCE			
Currency in circulation (£ m.)	1,296	+ 16	+ 38
Deposits in London Clearing Banks .. do.	6,149	+ 19	+ 302
Provincial cheque clearings (av. working day) .. do.	7.42	— 0.32	+ 0.87
WAGES AND PRICES			
Weekly wage rates (1947=100)	118	+ 1	+ 8
Retail prices (1947=100)	124	+ 3	+ 10
Wholesale prices (1930=100)	319.6	+ 0.8	+ 54.4
Basic materials (1949=100)	202.4	— 7.0	+ 77.2
Intermediate (1930=100)	383.6	— 2.5	+ 100.9
Import prices (1950=100)	142	+ 6	+ 45
Export prices (1950=100)	118	+ 3	+ 19

§ Four weeks to May 20, 1951. •April. † June.

All other figures refer to May.

"BUSINESS" INDICES (1946=100)

12

REASONS WHY
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were given by leading scientists in various fields. The main purpose, however, was to enable men with experience of modern methods in the field to get together and compare those experiences. Men from Malaya, for instance, could talk with, and both teach and learn from, their colleagues in Africa and South America faced with similar problems.

The magnitude of the problem was stressed in the opening address by Sir John, who suggested that crop losses from insects, fungi, bacteriological pests and weeds represented 20 per cent. of all food grown. Three methods of attack were possible—the raising of varieties or strains resistant to disease, cultivations and manurial devices that inhibited attack and—most successful of the three—the development of new insecticides.

* * * *

THE connection between plant nutrition and resistance to disease has led to a school of thought which holds that synthetic substances, such as fertilizers and insecticides, may ultimately be harmful to plant life. Sir John Russell added the weight of his authority on the side of the chemical manufacturers. He knew, he said, of no evidence to support the theory; indeed, disease tended to be most rampant where fertilizers were not used.

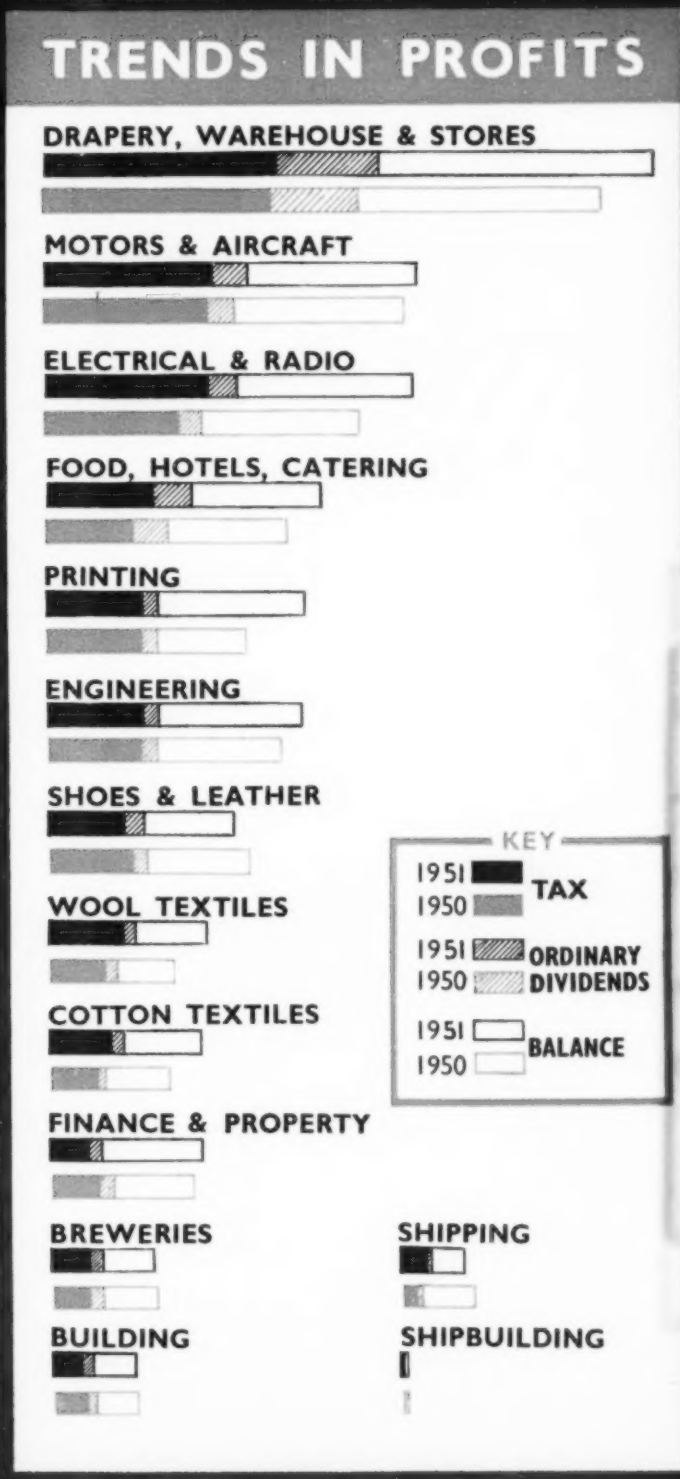
* * * *

INCENTIVES—YES OR NO?

THE headaches that the incentives problem can cause is well illustrated in the latest report

HOW THE CHART IS CALCULATED

The chart shows the profits made by 542 public companies whose returns were issued in the first three months of the current calendar year. They are sub-divided to show the amount paid in tax in the ordinary dividends.



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The Office Appliance Trades Association wound up the Business Efficiency Exhibition with a festival banquet at Grosvenor House.

of the Anglo-U.S. Productivity Council. For many years, British valve manufacturers have devoted considerable efforts towards inventing piece-work and incentive schemes under which a worker's earnings are directly linked to his output. Payment by results, it has been argued, was the key to high productivity.

Now a team of British valve manufacturers has returned from a visit to the United States, where they found that productivity was much higher than in comparable firms in this country. But they also found that in eight of the seventeen firms visited there was no piecework incentive scheme, though it seemed that most of them could usefully have had incentives for a good proportion of their work. Indeed, three of these companies had already established standard times for the output of every job and expected the operator to produce to these times; *i.e.*, a task was set but he was not paid on a piece-work basis. In these cases, the day rate was set at a high level.

* * * *

IN the March issue of BUSINESS *we published a survey by the Editor of the reports so far issued by the Anglo-U.S. Productivity Council. The Economic Co-operation Administration, which provides some of the Council's finance was so impressed by this survey that it is now distributing reprints of the article in America.*

* * * *

CO-OPERATION PLEA

CLOSER co-operation between the managements of different firms to ensure higher productivity has also been advocated by Sir Norman Kipping, Director-General of the F.B.I. and Joint Secretary of the Anglo-U.S. Council on Productivity. Speaking at the conference of the Institution of Production Engineers, he recalled a case in which an American firm refused to allow the visit of a team to its factory unless a British firm, with which it has a manufacturing agreement, consented. This the British firm refused to do, and the visit did not mature. Some time later, Sir Norman mentioned the matter to the managing director of another British firm, which had a strong financial interest in the recalcitrant organization.

"What nonsense!" was his reaction. "I know the process they were keeping your people from seeing. We have had manufacturing rights in it for seven years, and we still haven't been able to get it going successfully. And yet they're afraid that a visitor coming in from outside will get the whole idea in a single day."

* * * *

THE colour photograph reproduced on the cover, specially taken by a BUSINESS *photographer, shows the Battersea Power Station seen at dusk from the north bank of the Thames.*

David Brown & Sons (Huddersfield), Ltd., solved the problem of transporting heavy machinery to the Canadian International Trade Fair at Toronto by using small-scale working models. Thus they were able to show a whole range of models on a stand which would have been swamped by one full-scale machine.

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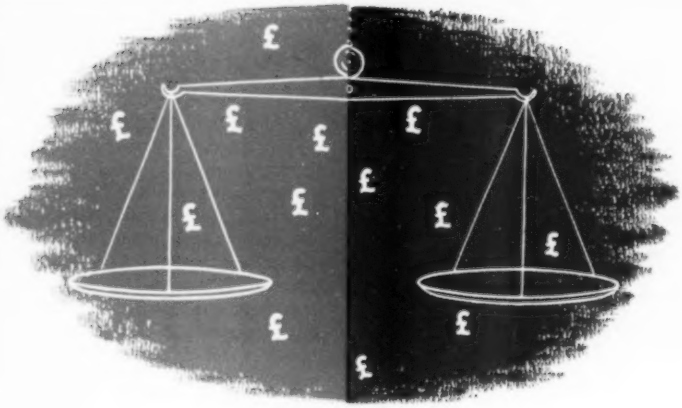


BUSINESS
The Journal of Management in Industry

Full employment, with its corollary of a permanent shortage of labour, has sounded the knell for the old tradition of stern discipline in the factory. Today, more and more firms are seeing the need for treating their workers as part of a team, with rights as well as responsibilities. In doing so, they are reaping the benefits not only of improved management-labour relations, but of higher productivity and profits. Here are case histories of four of the pioneers in this field.

Partners in Industry

HOW PROFIT-SHARING HELPS MANAGEMENT—LABOUR RELATIONS

By THE EDITOR

THE emphasis laid on payment by results in the past few years has tended to overshadow the value of another form of incentive—profit-sharing. But hundreds of firms in this country and overseas have found that sharing profits with workers has improved management-labour relations, and hence productivity, where a more direct bonus system has failed.

Any form of incentive payment, including indirect expenditure on welfare, may be considered profit-sharing. In practice, however, the term (or its more fashionable equivalent, co-partnership) is restricted to the distribution of a proportion of the annual profit of a business among the workers in cash, the amount varying with the profit made.

Profit-sharing schemes vary widely with the firm concerned; such schemes are essentially personal, and bear the imprint of their founder. Among the many different schemes in operation in this country, four main types may be found:—

(1) A sum is appropriated by the directors each year from profits and distributed among the workers, both the amount distributed and the method of distribution being wholly at the discretion of the directors;

(2) The amount distributed is fixed in a predetermined ratio to the amount of dividend paid to shareholders;

(3) Shares are distributed to workers, either free or at a reduced figure, so that they thereby become entitled to a dividend as shareholders and thus share in profits;

(4) The amount allocated from profits is not distributed directly to workers but paid over to an independent trust, which in turn spends it on amenities or distributes it.

In many industries, the application of direct bonus schemes, linked with individual or team output, is impossible or inequitable in practice. Retail trade is a case in point. The turnover of the sales assistant depends not merely on his or her efforts, but on the saleability of the product handled and the efficiency of the buyer. As a result, profit-sharing has been adopted by a number of leading retail stores; BUSINESS has already described the schemes of the John Lewis Partnership and Uptons; a further scheme is described on page 44.

Even where piece-rates and bonus schemes are the rule many firms have, in addition, adopted profit-sharing to offset the inevitable disadvantages of the more direct incentives. Piece-rates give the strongest individual incentive, but destroy teamwork, and may, in certain circumstances, do more harm than good. Profit-sharing, by emphasizing the teamwork factor, corrects the balance. The experience of an engineering firm with practically all of its workers on piece-rates or bonus is given on page 42.

It is true to say, however, that the majority of profit-sharing schemes have been introduced by businessmen on the grounds of principle, and that the material advantages gained were a secondary consideration. That these advantages have been considerable is undisputed.

✷ 86 Years of Profit Sharing

F. C. Braby, chairman & managing director, Fredk. Braby & Co., Ltd.

JUST which profit sharing scheme is the oldest in existence remains a matter of controversy. One serious claimant to the title must be Frederick Braby & Co., Ltd., iron and steel sheet rollers, and metal plate and sheet metal workers and galvanizers. Founded in 1839, the company adopted its present title in 1863, when Frederick Braby, founder of the company, granted an appreciable share in the profits to two of his staff. In 1865 a limited liability company was formed, and a regular scheme of profit sharing inaugurated, which has been in force ever since.

Since that date, the firm has grown substantially, both in size and in the range of its products. To-day it employs 3,000 workers in seven different factories. Between 80 and 90 per cent. of the workers are employed on straight piece-rates, and there are several incentive schemes in force.

The original profit sharing scheme was outlined in the Board Minutes of 1865, which stated:—

"When the net profits in any year should exceed 10 per cent., then for every four per cent. additional profit there may be paid to each workman a dividend or bonus of one per cent. upon the amount of wages received by him during the same year. Such *praemia* to be paid to any workman, all or none of them, as the Directors may determine. It may be paid to them in kind, in cash, or in any other way, or invested for them or placed to their credit in the Fitzroy Works Savings Bank. These bonuses to be treated as a liability." Various alterations have been made from time to time as the result of experience, changes in taxation, and other factors, and it is considered to be more in line with modern thought to relate the rate of profit sharing bonus to that of ordinary dividend.

Initially, payments were made on a flat basis, to all employees with more than three years' service. More recently an attempt has been made to relate payments to length of service. To-day, workers with two years' service get two-thirds and those with one year one-third the basic rate. Conversely workers with five or ten years' service get more than the basic.

Payments are deliberately based on the performance of the company as a whole. As Mr. F. C. Braby, the chairman and managing director, explained to a recent meeting of the Industrial Co-partnership Association:—

"This is one of our fundamental problems. The fortunes of our various departments vary considerably. We feel that such variations are not always by any means under the control of the personnel in these departments, and we feel it would bring about quite a wrong impression if we were to disclose the profit and loss in the various departments, or even of each factory. So the bonus is worked out on an overall basis."

The Savings Bank referred to in the original minutes still flourishes, and is in itself a form of co-partnership, in that the deposits are, in effect, lent to the company. There are at present 848 depositors, and deposits of about £47,000.

A more direct form of investment was the sale to employees, in 1919, of 2,000 £10 seven per cent. cumulative preference shares, ranking after preference shares but before ordinary shares. After seven per cent. has been paid on the preference shares, the employees' and ordinary shares rank equally in respect of dividend declared. The shares have since been converted into stock of £1 units, and the total holding is currently £54,000, shared among 341 employees, or about 11 per cent. of the total. The maximum permissible holding is £500, and directors are ineligible. A member on retirement, must transfer his shares to another employee. The dividend paid in the last financial year was 12½ per cent.—which explains why there is a waiting list for the stock, since it can only be obtained from another employee, at par plus accrued interest at seven per cent.

The fact that so many of the workers automatically receive a copy of the profit and loss account and balance sheet has meant that, in the odd years when no bonus could be distributed, the workers had a clear idea of the position, and accepted it without dispute.

✷ The Braby Plan

1. **A bonus of 1 per cent. of his annual wages is paid to each worker for every 4 per cent. dividend over 10 per cent.**
2. **A Savings Bank pays 3 per cent. interest on first £200 and 2½ per cent. over.**
3. **Workers' preference shares pay same dividend as that on ordinary shares, with a 7 per cent. guaranteed minimum.**

✷ Worker Shareholders Get More Bonus

BRYANT & May, Ltd. employ about 2,100 people in their offices, factories and forestry estates, all of whom, with the exception of the directors, participate in the company's profit-sharing scheme which was inaugurated in 1919.

Each year, the Board decides in the normal manner the total amount of profits to be distributed. After making allowance for depreciation, reserves and the preference dividend, a dividend of 10 per cent. free of tax is paid on the ordinary and partnership stocks. An amount not exceeding £120,000 free of income tax, or 12½ per cent. of the total annual wages—whichever is the less, is then divided equally, half going to the ordinary stockholders and half to the employees. The ordinary stockholders' half is distributed as an addition to the initial 10 per cent. dividend, while the total amount payable to the workers is handed to the Brymay Partnership Trust Ltd., for division in accordance with the terms of a trust deed.

The Committee of Management of the Trust consists of not more than fourteen persons, one half of whom are directors of Bryant & May, Ltd. (who may appoint ordinary stockholders as their alternates), the other half being employees or their representatives. Their first task in distributing the money they receive from the company is to bring up the 10 per cent. dividend paid by the company on the partnership stock to the same level as the total dividend paid on the ordinary stock, but not exceeding a total dividend of 15 per cent.

Initially, 200,000 shares of £1 each were authorized, but these have now been increased to 300,000. The partnership shares created at the inception of the scheme were later converted into stock. They receive the same dividend from the company as the ordinary shares up to 10 per cent., but carry no rights to any share in the company's reserve funds. Issued at par, they must be relinquished to the trustees at the same figure on death or shortly after retirement. An employee holding £50 or more of partnership stock may attend and vote at the general meetings of the company.

As has been said, the first charge on the sum paid to the Trust is the payment of any dividend due in excess of 10 per cent. After it has been met, the balance is then allocated among all workers with more than eight weeks' service, in proportion to their annual earnings, as a bonus. Full bonus, however, is only paid to workers with more than three year's service, those with two years', one year's and less than one year's service receiving three-quarters, one-half and one-third bonus respectively. For the year ended March 31, 1950, full bonus corresponded to 8½ per cent. of an employee's annual earnings.

The result of this arrangement is that workers who have continuity of service to their credit, receive a greater proportion of the profits.

Employees are notified of the amount of bonus to which they are entitled, and those who are eligible to receive the whole bonus, are invited to make an investment in the company by stating whether

Arthur Hacking, O.B.E., chairman and managing director, Bryant & May, Ltd.

they wish to take cash or stock, or partly cash and partly stock. This is in accordance with the principles of co-partnership.

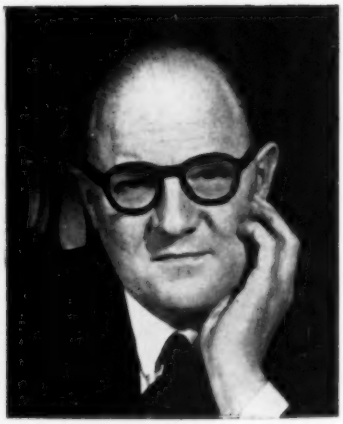
The proportion of the bonus allocated in respect of the wages or salaries of employees not entitled to receive it, is paid to the Brymay Benefit Fund, and is used to assist employees or ex-employees, by sick pay, superannuation allowances, pensions, marriage dowries, or in other suitable ways. Payment of marriage dowries is included in this scheme because a large proportion of the employees are girls and young women who sometimes do not remain in the company's employ when they get married.

After 31 years of operation, the Brymay scheme has, in the opinion of the management, realized the sanguine hopes of those who launched it, and continues to be a striking success.

✷ The Brymay Plan

1. **Balance of profit, after 10 per cent. dividend, shared equally between shareholders and workers.**
2. **Workers' share passed to trust fund which (i) brings up 10 per cent. dividend on partnership shares to same figure as ordinary dividend, and (ii) distributes remainder as bonus.**
3. **Proportion of bonus goes to benefit fund.**

A 3-Point Plan for Profit Sharing



Gerald C. Bentall, chairman, Bentalls, Ltd.

BENTALLS, Ltd., owners of the Kingston-on-Thames department store, with subsidiaries at Worthing and Ealing, are justifiably proud of their record as employers. Salaries are as high or higher than the best market rate, extensive provision is made of amenities, from sports grounds to medical care, there are pension and superannuation schemes and a comprehensive system of joint consultation.

The company's profit-sharing scheme is divided into three sections. Each year the directors set aside a certain amount, depending on the results for the year, for a general staff bonus. This is payable to all the 2,500 workers at Kingston below the grade of supervisor, who have been working for the company for at least a year. The bonus naturally varies from year to year, but that paid in March, 1951, on the results of the previous year amounted to three weeks' average earnings for those with five years service and over. Workers with from three to five years got two weeks' salary and those with from one to three years' service got one week's.

The second section of the scheme is the staff bonus fund. Any member of the firm may instruct the pay office to deduct a regular amount each week from his or her wages and deposit it in the fund. These savings carry interest at the rate of four per cent., and where they are maintained for five years without withdrawal (authorized withdrawals to meet an emergency excepted), a further bonus of 10 per cent. is added.

Finally, there is a personnel bonus scheme, originally intended for senior staff but recently extended more widely, under which employees may deposit money with the company in units of £10. On such investments they receive a guaranteed interest of 5½ per cent., plus an addition varying with the fortunes of the firm; during the last eight years the total bonus paid under the scheme has not been under 10 per cent.

The effect of the staff bonus fund and the personnel bonus is thus that workers are enabled to contribute to the capital of the company and in this way receive an additional share in the profit, without actually becoming statutory shareholders in the company. At present, about £130,000 has actually been invested by workers in these two funds.

The company have a superannuation scheme for senior staff, which they conduct through their own Pension Trust; for new entrants, the company contribute £2 for every £1 contributed by the executive. For general staff there is a non-contributory pension fund which guarantees them after 20 years' service a minimum pension on retirement of 1s. a week for every year of service. A worker leaving after 20 years' service will thus get at least £1 a week.

As the size and method of distribution of the general staff bonus is regarded as a matter for the board alone, and the administration of the funds is purely a matter of clerical routine, there is no provision for executive participation by the workers affected. They can, however, bring up matters connected with the scheme through the machinery for joint consultation.

Staff at Bentalls are classified in five grades—general staff, underbuyers and supervisors, buyers, controllers, and directors. There is a Buyers' Council, an Under-Buyers' Council, and a Supervisors' Council, each including all staff in the grade. A General Staff Council was set up in 1948, consisting of one member for each fifty workers, of whom seven must be juniors. This Council has an executive committee of seven, of whom one must be a junior.

The Bentall Plan

1. **A general staff bonus is distributed immediately after the presentation of accounts, the amount being determined by the board.**
2. **A staff bonus fund pays 4 per cent. interest on savings deducted from wages, with an additional 10 per cent. at the end of 5 years.**
3. **A personnel bonus scheme pays 5½ per cent. minimum on savings invested with the firm, plus additional interest varying with profits.**

✷ The Workers Own all the Company's Shares

THE fundamental concept behind the profit-sharing scheme operated by Condrup, Ltd., is that employees share profits as a right and not as a privilege. The amount they shall receive is calculable in advance according to principles incorporated in their employment contract, and the figures necessary for the calculation are freely available.

The scheme was introduced in 1896 by Mr. Soeren Condrup, Norwegian founder of the firm, which acts as distributors for the *Primus* stove and other hardware items. All staff, numbering some fifty to sixty sales representatives, packers and office staff, are paid a basic salary. Junior staff are paid the full market rate of fixed salary, and the percentage of bonus they get is regarded as a "windfall"; senior staff get a lower basic salary than they could probably command elsewhere and a correspondingly higher percentage of bonus; indeed, the directors get the major part of their income from their share of profits under the scheme. No individual commissions are paid to salesmen or to executives.

The firm is a private company, so that its accounts are not generally published; at the end of each year, however, a statement from the auditors certifying the gross profits, after the deduction of management expenses but before the payment of directors' fees and dividend, is published to the staff. From this, a "nominal bonus" of 10 per cent. is calculated; this is purely an accounting figure and bears little relation to the actual amount of bonus distributed.

Each worker is allocated a figure representing the percentage of the "nominal bonus" to which he is entitled. The actual percentage that a particular individual will receive is fixed by the managing directors on the basis of the contribution which, in their opinion, he can make to profits. Thus a salesman will get a higher percentage than, say a packer or a typist. After a certain stage, promotion is made, not by increasing a man's salary, but by increasing his percentage of the profits to which he is entitled.

In practice, something like 45 per cent. of gross profits has been distributed under the profit-sharing scheme in recent years and thus it can readily be seen that the total drawn in bonus is considerably greater than the "nominal" figure used as a yardstick. This figure has, of course, fluctuated with profits in the past, but in the 55 years during which the scheme has operated there has never been a year in which the bonus has fallen below a minimum of 104/- for each per cent. No provision is made for a special reserve for bad years, owing to the difficulty caused by employees leaving who would have some moral rights on such a reserve.

The annual bonus is by no means the end of profit-sharing at Condrup's, since all shares in the firm are held by employees, retired employees or their dependants. When a shareholder dies and there are no "protected" dependants or (a rare occurrence), he leaves, the directors recall the shares and transfer them to an employee, if necessary lending him the money to purchase them. The transfer price is fixed by a formula in the company's articles and is linked to the profit figures of the past few years. The shares are in great demand, and the allotment of a parcel is a further method of encouraging promising men.

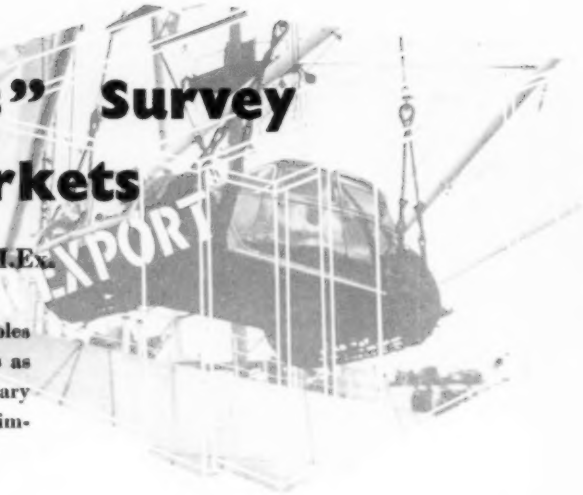
Soeren Condrup, founder, Condrup, Ltd.

The bonus is deliberately put forward by the directors as a right that the workers possess, rather than a privilege they enjoy at the discretion of management. Each worker is in a position to calculate in advance the amount due to him, from independently audited figures.

✷ The Condrup Plan

1. **A nominal bonus of 10 per cent. of profits is taken as an accounting figure.**
2. **Individual workers are allocated a percentage of the nominal bonus according to their capacity to influence profits.**
3. **All shares are held by executives and workers.**

New "Business" Survey of export markets



By H. CATLEEN, D.Sc. (Econ.), M.I.Ex.

In the past, BUSINESS has published tables showing the import position of world markets as they affect the British exporter. Here is a summary of the latest position, which shows a marked improvement over the 1949 situation.

THE effects of the 1949 devaluation of sterling have now worked themselves out, and the prospects for the British exporter are once again largely determined by the restrictions on the entry of his goods into the country of his potential customers.

On balance, import licences are easier to obtain than they were eighteen months ago; there is a greater chance for the go-ahead manufacturer to "get in." Of the 89 territories surveyed at the end of 1949, only 38 offered good, and only 17 fair, chances to the exporter. To-day, there are good export possibilities in 56 of the 89, and fair chances in another 15. The manufacturer to-day thus has a "geographical chance" of 80 per cent., compared with only 60 per cent. in 1949.

One factor in this improvement has been the liberalization of trading arrangements between the twelve countries of the Organization for European Economic Co-operation (O.E.E.C.). For this reason, the various territories have now been classified into eight categories, as follows:

A—No import restrictions whatever.

B—No import restrictions generally, but a few exceptions for which licences must be obtained.

C—O.E.E.C. countries: "liberation lists" are in force, but import licences are still necessary for goods not included in these lists. These are:

C1—Easy to obtain;

C2—Worth trying for;

C3—Difficult to obtain.

D—Import licences obtainable, but different rates of exchange are fixed for different categories of goods.

E—Import licences for *essential* goods have priority. For other goods, licences are very difficult to obtain, but should be tried for from time to time.

F—Import licences are almost impossible to obtain.

Categories A, B, E and F are self-explanatory. Category C is more complicated.

Any firm interested in exporting to a country belonging to the O.E.E.C. should first consult the "liberation list" published by that country to see whether his product is of a type mentioned in the list. (These lists may be consulted at the Board of Trade, the local consulate of the country concerned, public libraries in industrial centres and most Chambers of Commerce.) If the product is already included in the list, there is no restriction on imports; if it is not, an import licence is necessary.

In category D (covering in the main Central and South American countries), the less essential (from the point of view of the importing country) an article is, the higher the rate of exchange for the class to which it belongs, and the more the customer has to pay for it in his own currency.

The countries covered are now grouped into three main types: those to which export is comparatively easy (columns A, B, C1), those to which export is possible, though not so easy (columns C2, D), and those to which export is, at least at present, difficult (columns C3, E, F).

To reap the fullest benefit from this chart the reader should:

(*a*) check whether he has done business with all the markets in at least the first group (A, B, C1) and possibly the second (C2, D). Experience shows that a few small markets can yield as much and often more than one large one.

(*b*) check whether he has done business with those 67 markets showing an upward trend from 1949 to 1950, and whether his own turnover has shown a similar trend.

By this method, the manufacturer can see where his export organization is in step with the general trend of affairs, and where it is not complete or needs overhaul.

COUNTRY	IMPORT POSITION								EXPORTS FROM U.K.		
									1949	1950	UP + OR DOWN
	A	B	C_1	C_2	C_3	D	E	F	(in £1 million)		— %
EUROPE											
*Austria	..	..	..	..	X	..	..	..	6·0	7·8	+30
*Belgium	..	..	X	..	..	..	..	..	35·9	51·6	+44
Bulgaria	..	..	..	..	..	..	..	X	0·6	0·3	−50
Czechoslovakia	..	..	..	..	..	..	X	X	5·3	4·3	−19
*Denmark	..	..	..	X	..	..	..	..	49·3	63·6	+42
*Eire	..	X	..	..	..	..	..	..	76·8	86·9	+13
Finland	..	..	..	..	..	..	X	..	18·8	20·4	+9
*France	..	..	X	X	..	..	..	..	33·6	44·1	+31
*Germany (Western Zone)	..	..	..	..	X	..	..	..	26·7	44·0	+65
Gibraltar & Malta	..	X	..	..	..	..	..	..	10·2	9·5	−7
*Greece	..	..	..	..	X	..	..	..	13·7	14·7	+7
Hungary	..	..	..	..	..	..	..	X	4·2	1·8	−57
*Iceland	..	..	..	..	X	..	..	..	3·4	2·2	−35
*Italy	..	..	..	X	..	..	..	..	17·9	28·4	+59
*Netherlands	..	..	X	X	..	..	..	..	52·9	71·6	+35
*Norway	..	..	..	..	X	..	X	..	43·7	52·8	+21
*Portugal	..	..	X	..	..	..	..	..	18·6	16·1	−13
Roumania	..	..	..	..	..	..	..	X	1·6	0·7	−56
Spain	..	..	..	..	..	..	..	X	9·6	9·3	−4
*Sweden	..	..	..	X	..	..	..	..	46·9	79·5	+69
*Switzerland	..	..	X	..	..	..	..	..	19·3	29·1	+51
*Turkey	..	..	..	X	X	..	..	..	10·1	10·5	+4
AMERICA											
Canada	X	..	..	..	..	..	..	..	79·3	125·8	+60
U.S.A.	X	..	..	..	..	..	..	..	57·1	113·1	+98
Argentina	..	..	..	..	..	X	..	..	51·1	38·3	−25
Bermuda	..	X	..	..	..	..	..	..	1·8	2·2	+22
Bolivia	..	..	..	..	..	X	X	..	0·9	1·0	+11
Brazil	..	..	..	..	..	X	..	..	33·9	42·7	+26
British Guiana	..	X	..	..	..	..	..	..	4·5	4·9	+9
British Honduras	..	X	..	..	..	..	..	..	0·4	0·7	+75
British West Indies	..	X	..	..	..	..	..	..	23·9	28·7	+20
Chile	..	..	..	..	..	X	X	..	5·4	6·1	+15
Colombia	..	..	..	..	..	..	..	X	3·3	5·9	+79
Costa Rica	..	..	..	..	..	X	X	..	0·4	0·8	+50
Cuba	X	..	..	..	..	..	..	..	1·5	3·4	+127
Curacao (Dutch)	..	X	..	..	..	..	..	..	2·4	3·5	+46
Dominica	..	X	..	..	..	..	..	..	0·5	0·5	—
Ecuador	..	..	..	..	..	X	X	..	0·9	1·3	+42
French Guiana	..	X	..	..	..	..	..	..	0·07	0·09	+28
Guatemala	X	..	..	..	..	..	..	..	0·3	0·7	+134
Haiti	X	..	..	..	..	..	..	..	0·3	0·6	+100
Honduras	X	..	..	..	..	..	..	..	0·1	0·2	+100
Mexico	..	..	..	..	..	..	X	..	2·4	5·1	+112
Nicaragua	..	..	..	..	..	X	X	..	0·1	0·3	+200
Panama	X	..	..	..	..	..	..	..	2·1	5·0	+138
Paraguay	..	..	..	..	..	X	X	..	0·8	0·5	−39

KEY A No import restrictions whatever. **B** No import restrictions generally, but a few exceptions for which licences must be obtained. **C** O.E.E.C. countries: "liberation lists" are in force, but import licences are still necessary for goods not included in these lists. These are: C_1 easy to obtain; C_2 worth trying for; C_3 difficult to obtain. **D** Import licences obtainable, but different rates of exchange are fixed for different categories of goods. **E** Import licences for essential goods have priority. For other goods, licences are very difficult to obtain, but should be tried for from time to time. **F** Import licences are almost impossible to obtain. * O.E.E.C. countries.

COUNTRY	IMPORT POSITION								EXPORTS FROM U.K.		
									1949	1950	UP + OR DOWN − %
	A	B	C_1	C_2	C_3	D	E	F	(in £1 million)		
AMERICA											
Peru	X	..	..	..	..	..	..	..	4·3	10·5	+145
Salvador	X	..	..	..	..	..	..	..	0·3	0·5	+67
Surinam	..	..	X	..	..	..	..	..	0·2	0·4	+100
Uruguay	..	..	..	..	..	X	X	..	10·4	13·7	+32
Venezuela	..	X	..	..	..	..	..	..	14·5	14·2	−3
AFRICA											
Belgian Congo	..	X	..	..	..	..	..	..	5·4	5·7	+6
British East Africa	..	X	..	..	..	..	..	..	35·5	35·4	—
British Somaliland	..	X	..	..	..	..	..	..	0·1	0·1	—
British West Africa	..	X	..	..	..	..	..	..	64·3	63·9	−1
Egypt	X	..	..	..	..	..	..	..	35·9	42·4	+18
Ethiopia	..	X	..	..	..	..	..	..	0·6	0·7	+17
Liberia	X	..	..	..	..	..	..	..	1·1	0·9	−18
Mauritius	..	X	..	..	..	..	..	..	3·5	4·1	+17
Portuguese East Africa	..	X	..	..	..	..	..	..	3·0	3·4	+13
Portuguese Guinea	..	X	..	..	..	..	..	..	0·4	0·6	+50
Portuguese West Africa	..	X	..	..	..	..	..	..	1·7	1·9	+12
Seychelles	..	X	..	..	..	..	..	..	0·1	0·1	—
Southern Rhodesia	..	X	..	..	..	..	..	..	31·4	33·2	+6
Sudan	X	..	..	..	..	..	..	..	7·8	9·3	+19
Tangier	X	..	..	..	..	..	..	..	0·8	0·6	−25
South Africa	..	..	..	..	..	..	X	..	125·0	121·1	−3
ASIA											
Aden	..	X	..	..	..	..	..	..	2·8	3·4	+21
British Borneo	..	X	..	..	..	..	..	..	2·9	3·1	+7
Burma	..	..	..	..	..	..	X	..	7·1	8·9	+25
Ceylon	..	X	..	..	..	..	..	..	14·7	17·1	+16
Cyprus	..	X	..	..	..	..	..	..	4·1	5·6	+37
India	..	..	..	..	..	..	X	..	117·1	96·8	−17
Iraq	..	..	..	..	..	..	X	..	14·2	14·5	+2
Israel	..	..	..	..	..	..	X	X	6·2	9·4	+52
Lebanon	..	X	..	..	..	..	..	..	8·5	8·0	−6
Malaya	..	X	..	..	..	..	..	..	42·0	53·8	+28
Pakistan	..	X	..	..	..	..	..	..	33·0	40·9	+24
Persia	..	..	..	..	..	X	X	..	30·9	30·2	−2
Portuguese India	..	X	..	..	..	..	..	..	0·5	0·8	+60
Portuguese China	..	X	..	..	..	..	..	..	0·01	0·02	+100
Saudi Arabia	..	X	..	..	..	..	..	..	3·4	2·8	−18
Syria	..	..	..	..	..	X	..	..	2·4	2·9	+21
Thailand	..	X	..	..	..	..	..	..	4·6	6·8	+48
AUSTRALASIA											
Australia	X	..	..	..	..	..	..	..	188·6	256·1	+36
Solomon, Gilbert Tonga Islands	X	..	..	..	..	..	..	..	0·2	0·2	—
Fiji	X	..	..	..	..	..	..	..	1·6	1·8	+13
New Zealand	..	X	..	..	..	..	X	..	64·7	86·6	+34

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Scrap is not wasted at

Ford's

By C. BRYANT

Scrap is inevitable, but it need never be wasted. At the Ford Motor Company's Works, salvage is the responsibility of a special department which looks after its collection, processing, redistribution and sale.

IN two previous articles on waste prevention, the emphasis has been on how firms have avoided making scrap. But even in the best run firm, the accumulation of a certain amount of scrap is an inevitable by-product of the manufacturing process. Circles have to be stamped out of squares, rough forgings and castings machined to smoothness, impurities removed from chemicals and foodstuffs. As shred, dross, swarf, scum, call it what you will, scrap is an integral part of industry. But it need never be waste.

One man's scrap is another man's raw material To make scrap is human, but its organized collection and disposal is the cornerstone of any effective waste prevention programme. In many cases, this process will end with the delivery of scrap to the scrap merchant; in others, an organization may well consume its own scrap.

The organization of Ford Motor Company Ltd., for example, is very nearly a self-contained unit, buying iron ore and coal and selling motor cars and lorries and tractors made from them. The huge Dagenham works includes a blast furnace, coke ovens, power house and a foundry in addition to the manufacturing and assembly shops. All these departments use each other's salvage—and at Ford's, salvage can mean anything from waste materials to surplus, secondhand, defective and obsolete stock and equipment.

The collection, processing, redistribution and sale of all this salvage is in the hands of a special department, whose activities, as may be seen from the chart on page 51, stretch into every corner of the Dagenham empire.

All finished parts that have been rejected by the inspection department because of flaws are passed to the salvage inspection department, where they are examined and classified. Material classified as scrap is listed on a special form, which serves the dual purpose of recording the percentage of rejects (a figure useful to the cost department) and also keeps a check on the performance of each department.

Wherever possible, rejected parts are reconditioned and returned as stock. Where this is not possible, they are treated according to their metal content and either melted down or sold as scrap metal. Practically all solid ferrous scrap is absorbed in the company's own blast furnace and cupolas.

Most of the steel turnings, borings, cuttings, swarf, etc., produced in the machine shop in the course of manufacturing components are carried away by scraper conveyors under the gangways, which tip the metal into bins outside the shop. These, in turn, find their way to railway trucks. Some of the metal is sold, and the remainder goes back to the steel-making department.

Oil and cutting compounds are put through separators, with particular attention being given to expensive cutting oils Dirty oil is used again and again where lubrication does not call for any particular grade or quality, as, for instance, on pig iron mould conveyor track and similar equipment. No oil is sold if it can possibly be recovered or re-used.

Non-ferrous scrap is collected independently in each department. Bins, with the contents denoted in white letters, are placed at strategic points, and it is the responsibility of superintendents and department heads to see that the correct material goes into each. Mixed material

What happens to scrap at Ford's

1. **Rejects are reconditioned, melted down or sold as scrap metal.**
2. **Steel turnings, borings, cuttings, etc., are sold or returned to the steel-making department.**
3. **Oil and cutting compounds are cleaned and re-used ; dirty oil is used on equipment where no particular grade is called for.**
4. **All scrap white metals and drosses are inspected by the salvage department.**
5. **Packing cases are checked and either used again or undamaged boards and battens are salvaged for new cases.**
6. **Surplus items are offered to other departments and foreign branches before disposal.**
7. **Stone emery waste from grinding and emery wheels is sold back to the makers.**
8. **Blast furnace and coke oven by-products are all salvaged and used for different purposes.**
9. **Waste heat from coke ovens is used to heat boilers, saving 30,000 tons of coal a year.**

is useless for smelting and is difficult to sell.

All scrap white metals, babbit dross, tin dross and solder dross are inspected by the salvage department to see that they contain the minimum of tin. All drosses and white metals are kept separately.

Every tool made from high-speed or a proprietary cutting steel is carefully examined before it is scrapped. Most solid high-speed steels are treated and used in the foundry, but high-speed steel turnings and a few high-speed cutting tools are sold outside. Cemented carbide tips are collected in tins in the salvage department after they have completed a run, and are examined and re-examined several times by workers specially deputed for the job before being finally discarded. No tips are scrapped until it is quite clear that they cannot be used again. In one period of ten years, the total weight of tips classed as absolute scrap was only 180 lb.

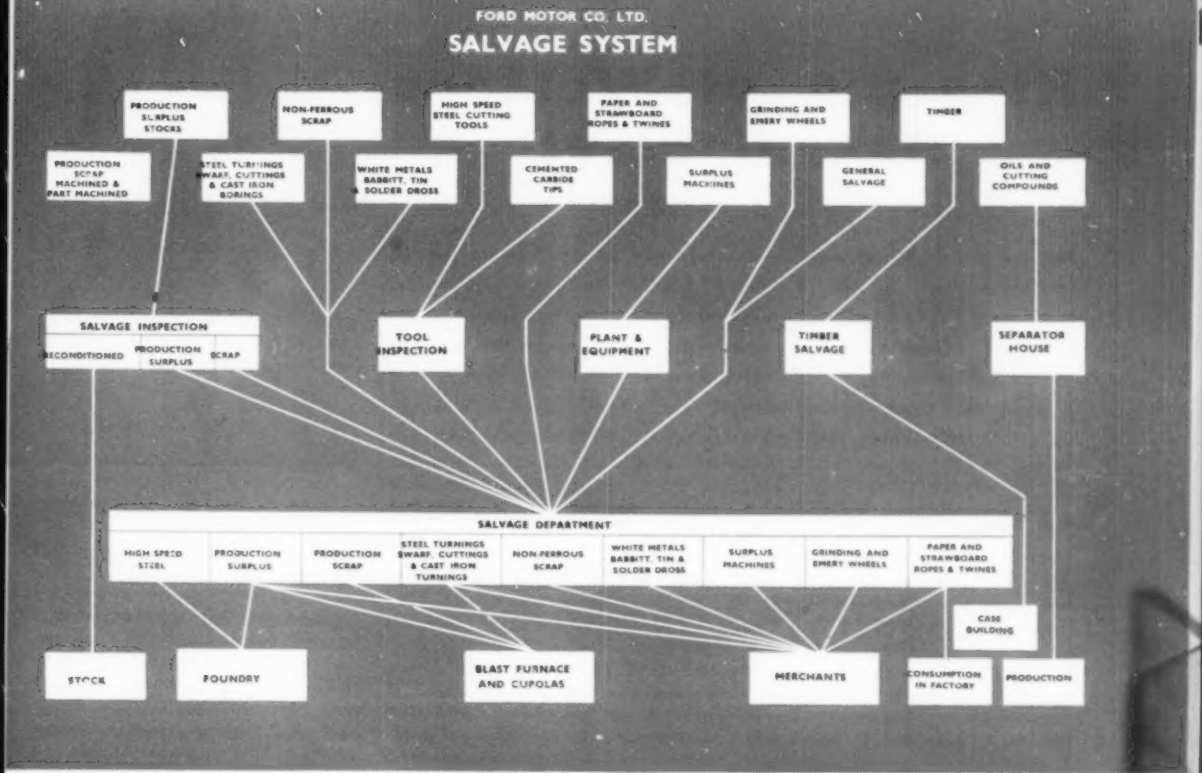
A special department has been set up for dressing timber, and all surplus wood and imported packing cases are sent to it. Some cases are used again as they stand, while others are knocked down, the battens and boards obtained being used for making new cases and for other purposes. All nails drawn from the cases are recovered, and sent to the blast furnace for making iron. Only a small fraction of the wood received is sold outside for firewood.

In an organization the size of Ford's, manufacturing for a fluctuating market, it is inevitable that surpluses occasionally arise of some items of stock. None of these is sold, however, until every department in the organization—including foreign branches—has been circulated with a list of the materials available. When all departments have taken their pick, a surplus stock committee gives final authority for disposal by the salvage inspection and salvage departments.

Maintenance and care of plant and equipment come under the control of a special department, whose aim is to see that no machine is scrapped which is capable of being re-conditioned. There is thus very little material in this sector that can be considered as scrap. On the rare occasions when machines are sold, all parts and accessories which can be used by the company are removed before delivery to the purchaser.

Since the war, all grinding and emery wheels have been salvaged and the stone emery waste sold back to the makers. The amount of stone returned may be as much as two tons a week. Lead hubs are also segregated, and in some cases they are also returned to the makers for incorporation in new wheels.

Except for production materials, all surplus and secondhand mater-



ials and items not required by the company are handled directly by the salvage department. The range is very wide, and sooner or later embraces practically everything used in the organization. The effect of the system is that surplus and salvage are tackled at source, and the number of people working on salvage disposal is kept to a minimum.

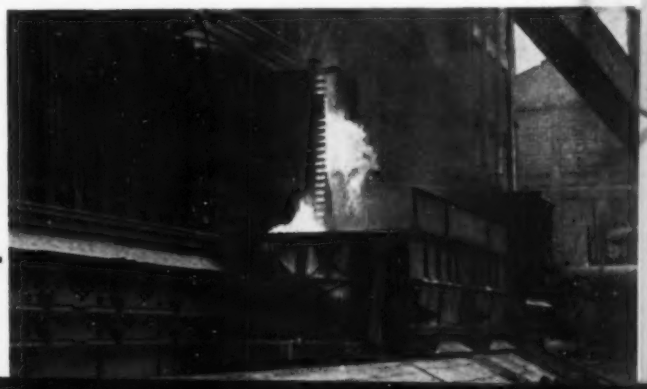
On the mechanical engineering side, Ford's scrap recovery programme depends very largely on organization, and on the careful and relentless insistence on human care. On the heavy engineering side, the recovery programme is just as spectacular, though it is in the nature of things bound up with the design of the plant, and, once this is in operation, continues almost automatically.

About five per cent. of the material fed into the blast furnace for iron production, for instance, consists of waste products from other sections of the plant. A sintering plant mixes waste breeze from the coke ovens, slurry remaining after the cleaning of the blast furnace gases from the previous charge, and borings from the machine shop. This mixture is then fed to the blast furnace.

Gas from the furnace is cleaned by means of a Dorr thickener,

Continued on page 94

Below, left to right: (1) At the business end of the scrap conveyor, turnings, borings, etc., are tipped into bins. (2) Various groups of non-ferrous scrap are carefully segregated and collected in bins. (3) No oil is sold if it can be recovered in this separator. (4) Coke from Ford's own coke ovens is used in the blast furnace.



King-pin of Western Rearmament

By A. K. ASTBURY

William Rogers Herod, arms production chief of the Western powers, is a big man in a big job. Yet this 53 year old American businessman is virtually unknown to his own countrymen. Even in England, where he has lived and worked for years, there are few who can claim to know him intimately. BUSINESS presents one of the first British accounts of a man who rose from the ranks to the head of a world-wide undertaking, and took over N.A.T.O.'s arms production.

ON April 4th, 1949, twelve countries signed a pact—the North Atlantic Treaty. Born of the Western Powers out of frustration at Lake Success, the treaty committed each of the signatories to immediate military assistance in the event of an aggression against any other.

Such treaties have been signed before. Two things make the North Atlantic treaty stand out from its predecessors. In the first place, it was made within the framework of the United Nations. Thus, wide as is its scope, it forms only part of a greater whole. In the second, it provides for a permanent organization which will not merely try to keep the peace, but will organize the Armed Forces necessary for this and the arms and supplies to maintain them.

The N.A.T.O. is thus not merely a political or military body; it stretches its activities into the heart of the business and industrial community in each of the nations that support it.

As might be expected, the infancy of the new organization was not without growing pains. Initial plans had to be modified, staffs had to be built up—a slow process. The military side of the organization demanded priority and got it with the appointment, on December 18th, 1950, of General Dwight Eisenhower as Supreme Allied Commander, Europe.

But the supply side did not lag unduly. In January, 1951, it was announced that William Rogers Herod, 53 years old president of the International General Electric Co. Inc., had been appointed head of N.A.T.O.'s Defence Production Board.

The appointment caused some raising of eyebrows, both in America and elsewhere. For Herod is something of an unknown quantity to most businessmen. His fellow Americans have seen little of him, for most of his business life has been spent overseas. And, since he has never stayed long in one place, few others have got to know him well.

Nor have events since his appointment removed anything of the mystery. Operating from N.A.T.O.'s new offices in Berkeley Square, London, Herod has deliberately avoided the limelight. He has given no interviews, made only one public appearance in this country—when he opened the Gauge and Tool Exhibition in London in May this year.

Who, then, is this man whose actions may influence, even determine, the course of British rearmament production, and thus the fate of a thousand businesses up and down the land?

The most obvious thing about Herod to those who meet him for the first time is his size. This 53 years old American is well over six feet high and of heavy build; but his face, if heavy featured, is frank and open, and his smile, his booming voice and loud laughter engaging and infectious.

He was born in Indianapolis, son of a lawyer with a fairly successful practice in the town, and youngest of three children. As a boy his tremendous fund of energy was used up in sport—in tennis, swimming, baseball, football and so on. His interests were in things concrete rather than abstract; and in 1915 he became a student at Yale and took a course in mechanical engineering. During his time there, he received a number of prizes for engineering, mathematics, and allied subjects. He became secretary-treasurer of the Yale Mechanical Engineering Club, was a member of the Y.M.C.A. industrial committee and a member of a number of student societies.

He served as a private in the 10th Regiment Connecticut National Guard in 1916 and advanced from private to battalion commander; from 1919 to 1924 he was first lieutenant, Field Artillery, Officers Reserve Corps.

During his time at Yale, Herod had gone on a number of expeditions to industrial plants and it was then that he first conceived the idea of working for the General Electric Co., Inc.* On leaving the army he wrote to the company and asked for a job. But it was typical of the man that he

* There is no connection between the General Electric Co., Inc., of Schenectady, U.S.A., and the General Electric Co. Ltd., of London beyond the similarity of name.

did not wait for a reply—he went to Schenectady for a personal interview. He was given some application forms to be posted back, but he filled them up there and then, took his examinations, and began working for a test period. Years later, he learned that the company had decided to turn down his application, but that a letter from the president of the Indianapolis Street Railway had influenced the company in his favour!

It is recorded of young Herod that not long after joining General Electric he asked its then vice-president, E. W. Allen: "Mr. Allen, what does a fellow have to do to become president of a company like General Electric?" "I'm not sure I know," was the reply, "and if I did, I'd try it myself!"

After a short time on test, Herod went to the construction engineering department of General Electric and became assistant to the manager on special assignments. There he turned his attention to power generation problems and heat balance analyses. Outside working hours he played golf and tennis, became head of the Schenectady chapter of the American Legion and in his holidays climbed in the Adirondacks.

The job which "made" Herod happened to be the company's biggest export order of its kind to date—an order for turbines for an Argentine power station. The deal took place in Belgium, and Herod was one of those concerned in the transactions. He acquitted himself so well that the president of International General Electric asked for his transfer to that organization.

The International General Electric Co., Inc., was formed to be solely responsible for all General Electric business relations outside the United States and Canada. It is divided into four principal activities: (1) products of the General Electric Co., Inc., its associated manufacturing companies and those of various other American manufacturers are exported by I.G.E. from the United States; (2) electrical products are manufactured abroad by I.G.E. subsidiaries, many of whom are wholly owned; (3) in highly industrialized countries, particularly in Europe, where adequately developed electrical industries exist, I.G.E. exchanges and sells inventions and technical information; (4) I.G.E. invests in electrical undertakings in other countries.

Herod's first trip abroad after being transferred took him away from the United States for nearly two years, to Japan, Korea, China, the Philippines, Borneo, Australia, and New Zealand. After a couple of months back in the United States, he came to Europe, where he spent a year, mostly in England and Italy. He returned to the United States for a few weeks and immediately set sail for Africa, India, Burma, Malaya, Siam, French Indo-China, Java and Australia.

By 1929 he had become assistant to the president of I.G.E. In 1934 he came to England as assistant to the managing director of Associated Electrical Industries Ltd. and was based on London for three years. But he still travelled; before being appointed vice-president of I.G.E. in 1937 he visited Egypt, Palestine, Syria, Argentina, Uruguay and Brazil. In 1939 he flew over London in the second commercial plane to fly the North Atlantic, visited Germany and France, and got back to the United States the day before war broke out.

When America entered the war, Herod joined the army again—but this time as a lieutenant-colonel in the Army Air Force. Promoted colonel, he became head of one of the sections of the A.A.F. production division at Wright Field and on being discharged in 1945 returned to I.G.E. as executive vice-president. The same year, promoted president, he set out for Europe again, visiting Britain, Holland, Belgium, France, Germany, Switzerland and Italy; by 1947 his travels had taken him to practically every country in the world except Russia and Eastern Europe and parts of North Africa and the Middle East.

In his job as president of I.G.E.—from which he is, at the moment, on leave of absence—Herod was in close touch, not only with the broad economic aspects of the business, but also with most of the intimate details of its operation. It was said of him by a colleague that he used to be continually bombarding his associates with questions about all aspects of their operations and his curiosity about apparently irrelevant or minor matters was not confined only to business subjects. To him the *Financial Times*, on his coming to England, paid the rare tribute

Mr. Herod has made only one public appearance in Britain—at the Gauge and Tool Exhibition in May.

that he knew "practically all there is to know about practically everything in industry."

Herod has never left travelling to subordinates, is tremendously energetic and enthusiastic and has a phenomenal memory. French, German, Italian, Spanish and Dutch are among the languages he speaks fluently. He is very well read, usually reading three or more subjects simultaneously, such as science, fiction, biography or history. Of late years he has developed an interest in music and is a director of the New York Philharmonic Orchestra.

And what of Herod's present job, that of deciding what defence item each member of the North Atlantic Treaty Organization can best produce, and then seeing that it is produced so that there is no failure in the supply of materials of war? It is a unique job, for although generals have commanded international armies before now, never before has there been a production co-ordinator to investigate foreign factories, redirect their efforts, allocate them money and materials, and spur them on if they lag in their output

The equipment of modern forces under arms requires considerably more material than was the case even in World War II—and requirements then exceeded, in turn, those of any previous war.

The overall planning of the respective contributions of the twelve member nations will be carried out by the new Finance and Economic Board, sitting in Paris, where it can draw on the experienced personnel of the O.E.E.C. and the American E.C.A. F.E.B. will be concerned with the total size and the economic effects of the rearmament programme. The Defence Production Board will be concerned with the actual procurement of munitions.

Herod himself summed up his job when he opened the Gauge and Tool Exhibition.

"It is the mission of the Defence Production Board of the North Atlantic Treaty Organization," he said, "to study and recommend action in the production field which, so far as is practicable, will help integrate on an international basis the production portion (and particularly the manufacturing portion) of the military effort of the various countries concerned.

"It is the Board's job, for example, to relate deficiencies in military equipment in one North Atlantic Treaty power with production facilities for this item which may be available in another Treaty country. The Board can only recommend, and its recommendations relate primarily to production which can be stimulated through international action—and where, generally, a portion of the production so stimulated is available for international transfer."

Raw Materials

To Herod, the crux of the rearmament problem is the raw materials situation.

"There is no question," he says, "but that the rearmament plans of the North Atlantic Treaty nations will, when added to a record civilian demand, make a tremendous drain on the world's resources of raw materials, technological brains, tools and other things. And unless the world's supply of basic raw materials can be increased, productivity will be limited and rearmament production must, to that extent, be at the expense of production otherwise available for export and civilian use.

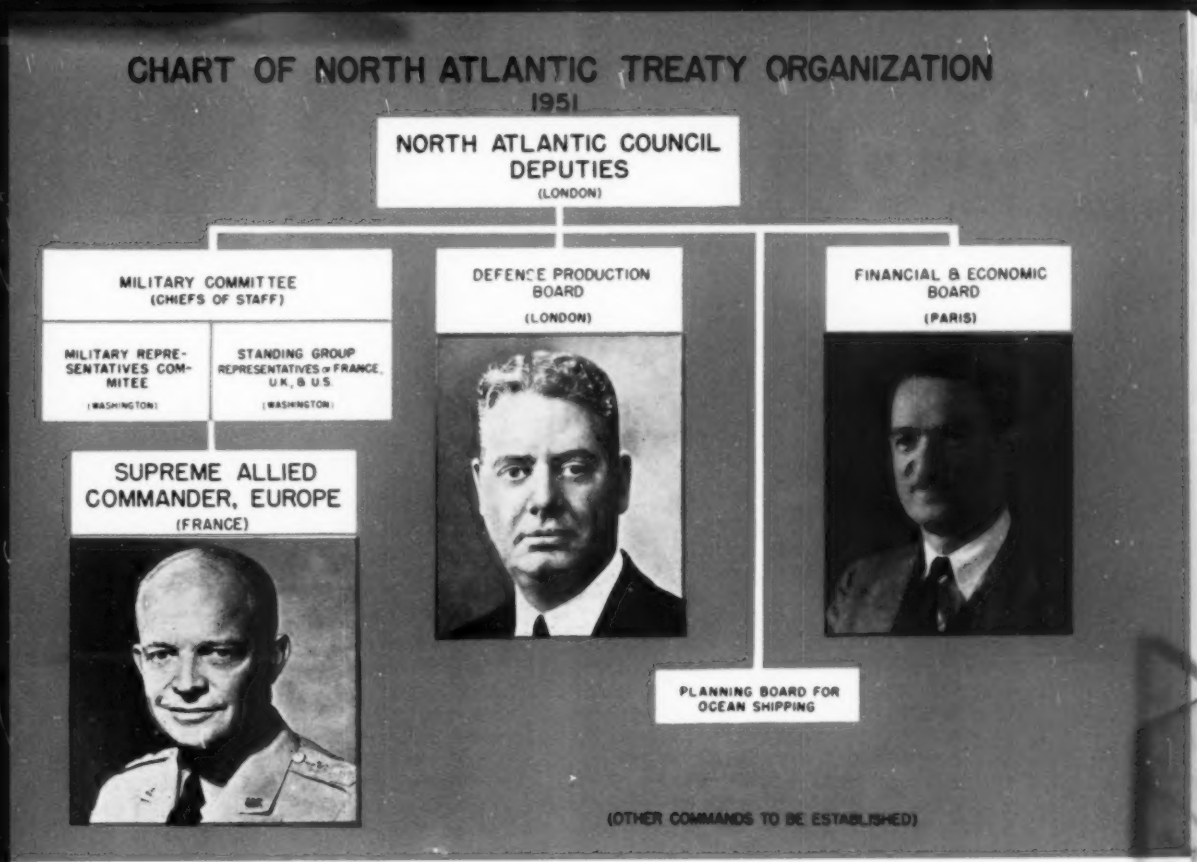
"The question of raw materials is therefore of prime importance; and in general the solution of this raw materials question must extend across national frontiers; for generally speaking few of the important and critical raw materials are, from the point of view of home production and consumption, so balanced in each country that some international transfer of the material itself, or of the ores, or of basic elements entering into it, is not required.

"This fact, together with the pressure of world demand on world supply, has led to the creation of the International Materials Conference and the various Commodity Groups. It is their function to appraise demands and relate them to supplies, and to consider what further steps can be taken towards an increase in production.

"In the present and immediate future this boils down in many cases to considerations of price and allocation of currently available materials. But materials are scarce primarily because demands have increased on a world scale beyond anything known before World War II, not only for military goods but for civilian goods also. It is primarily this increase in demand, both civilian and military, rather than any decrease in supply, which is generally responsible for shortages. And present indications are that demand will continue to remain at high levels for a considerable period.

"The long term answer to this problem," he has stated, does not lie in improved techniques of allocation but in development of wider sources of availability of basic materials. This takes us back to the very mines and fields, to the ores, to coal, to petrol and to agricultural products. It is essential that we should not neglect to take steps to widen the fundamental availability of these basic materials and products, even though steps taken to-day may take two or more years to achieve results."

After opening the Gauge and Tool Exhibition Mr. Herod made a detailed tour of the stands.



Given the raw materials, businessmen will—Herod is confident—manage to obtain not merely the output necessary to meet rearmament demands, but a steady increase in civilian consumption.

"Experience over the past half decade in this country and in the United States," he says, "has shown a reasonably high increase in productivity per head when the materials were available. That potential increase in productivity is certainly still present, and it can be expected to remain if we show enterprise and devote attention to the widening of the base of supply of those raw materials which might continue to make bottlenecks to increased productivity.

"Technology can also be further improved, and through increased productivty the rearmament burdens at present contemplated (provided war does not break out) can in my opinion be sustained concurrently with a progressive increase in the standard of living—after a readjustment period. The length of this period depends principally on our own efforts and may in some countries be as short as two or three years—or may be longer. During such a readjustment period belt-tightening must be the order of the day in almost all the Western nations.

"But in addition to raw material limitations there are in the production effort other potential limitations such as manpower, electrical and mechanical power supply, and finance, as well as markets for our export goods. Each of these factors, even where there is goodwill, good organization and good management of individual undertakings, has at one time or another during the past generation limited production; and as a result the economies of various countries have groaned successively under deflation and inflation. Yet through all these cycles of development we have emerged with expanded economic activity, and this in turn means expanded production. When this is accompanied by expanding individual productivity—and this is the province of technology—an expanding series of benefits can and will follow.

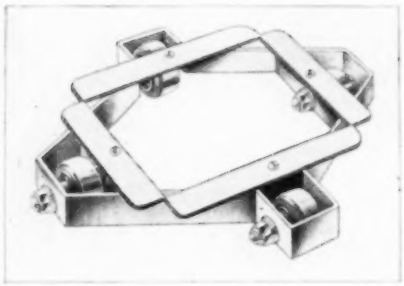
"In this development of improved technology and increased productivity a great opportunity and a great challenge fall upon the British. To meet that challenge courage and enterprise are needed; but these qualities have been in evidence in this country in every crisis in the past, and we know that they still remain.

"There is no question in my mind that we in the West will win through—not without sacrifice, but with less sacrifice than would otherwise be the case, and with maximum opportunities for longer term improvements and benefits."

Look Out for WHAT'S NEW

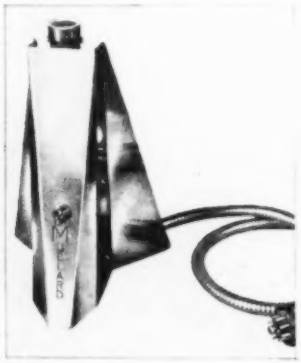
KEEP COOL

MAINTENANCE crews working in confined spaces in grounded aircraft under tropical conditions can work with maximum efficiency by using a new British mobile air conditioning unit. Just over 6ft. long and 3ft. wide, the unit delivers 400 cubic ft. of cooled air per minute. Petrol or electrically driven models are available for industrial use at home or abroad.



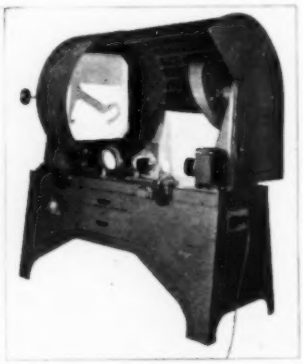
THRIFTY SHIFTER

UNREMARKABLE to look at, this 18ins. square bogie truck nevertheless boasts some remarkable features. It costs little more than a bottle of whisky, is of welded steel construction (yet light enough to carry around) and runs freely on double ball bearing wheels. It will turn about in its own length and being only 2½ins. high it is easily slipped under any load.



TINNING ALUMINIUM

TINNING small, complex aluminium or aluminium alloy articles presents a host of difficulties that cannot be overcome by ordinary soldering techniques. A new soldering bath uses ultrasonic electromagnetic currents to remove the coating of oxide on the articles thereby ensuring effective tinning. A mains-run electronic amplifier supplies the ultrasonic power.



SIGHT CHECKING

CONSTANT visual checks on the accuracy of finishing cuts on profile work, are available to the toolmaker who uses this new workshop projector. The projected image can be compared with an enlarged drawing, a smoked glass trace or a photographic record of any contour. Magnifications between 20X and 19X or 10X and 9X are obtainable with interchangeable lenses.

Aircraft Costing Problems Solved by Time and Job Cards

Narrow profit margins, fluctuating requirements and components incorporating many parts present involved costing problems. Folland Aircraft, Ltd., who are sub-contractors to a number of aircraft manufacturers, have solved the difficulty by the accurate costing of labour via time and job cards.

By BRIAN CUMMINGS

THE work of Folland Aircraft, Ltd. consists on the one hand of direct contracts with the Ministry of Supply, and on the other hand of sub-contracts for the de Havilland Aircraft Company Ltd. and other aircraft manufacturers for whom Folland make wings, tailplanes and other major components. Folland Aircraft have been operating for 15 years, and employ just over 2,000 people at their works in Hamble, Hampshire

Most of Folland's work is done on the basis of sub-contracts, and these present special problems. The difficulty is that main contractors want fixed prices agreed before the components have gone into mass production. Profit margins for the sub-contractor are comparatively small; delivery programmes and requirements fluctuate constantly, and the problem is aggravated by the fact that one component may involve 2,000 or more parts.

This article will be confined to the problems of costing labour and building up the payroll; and for this purpose the story begins and ends with time clocks.

Folland Aircraft use 32 time and job clocks and six types of card. Clocks and cards are used by weekly staff as well as hourly paid workers. Hourly paid workers use time clocks located at the main gates and in the maintenance department, stores, tool room, machine shop, development section, press shop, dope, paint and woodworking department, process department, main assembly shop, sheet metal department, experimental department and welding department. There is one separate clock for all the charge hands.

Hourly paid workers also use the job clocks located in the sheet metal department, tool room, machine shop, assembly, press, routing and drilling department, and the experimental department. Weekly paid staff (including supervision and police) punch time clocks located in the inspection department, planning department, drawing office, administration block and canteen.

The large number of time and job clocks saves time in the actual business of punching the cards. At any given point in the day the largest number of people going past one clock is about 100, and the smallest number is about 40. The maximum time taken to clear one clock is three minutes, which enables management to enforce strict time keeping. Hourly workers who are more than three minutes late in the morning are penalised for 15 minutes.

Various time and job cards used are shown on page 58. The bottom right hand card is the clock card used by hourly paid workers. The space at the top bears the following information: clock number (coded by departments), name,

Folland Aircraft use 32 time and job clocks and six types of card.

permanent number (for income tax and national health deductions) and voluntary deductions. The box marked "Premium bonus/lieu bonus" refers to the Halsey-Weir system, by which times are set for each job and workers are given a bonus of half the time saved at the basic rate. Weekly workers use a simplified clock card which merely records time spent in the organization and absences on account of illness, leave granted and lost time. This card is not shown.

There are two kinds of job card. The big card on the left is for workers who do various jobs in one week, and is the most commonly used. A smaller card is used for men and women who spend most of their time doing one job, such as maintenance. These cards make a vital contribution to the costing system, and their use will be described in some detail.

The top right card is a lost time card. The time keeper places these cards in the "out" side of the rack, when the normal card has not been clocked. When an absentee returns to work he clocks in with the lost time card, completes it by giving the reason for his absence, and gets is signed by the works medical officer, foreman or departmental head. The card is then sent to the Wages Department, who return the proper card to the rack after entering details of time lost.

The big card comes into operation in the job booking offices which are placed in various departments of the factory. When a job comes into the factory it is allotted a number on the basis of one number for each main component such as wings, tailplanes, elevators, etc. Each component is then broken down into schedules of all detail parts to be made, and all sub-assemblies and final assemblies. A separate instruction card is issued for each detail, sub-assembly and final assembly. Cards normally cover batches of about fifty machine sets of detail parts, ten to fifteen sub-assemblies, and one to five final asssemblies.

These instructions are issued to the works by means of a set of

Left: job record or wages allocation card. Top right: lost time card. Bottom right: clock card.

identically printed cards consisting of the following: (a) route card; (b) foreman's card; (c) cost card. Each of these cards gives a full list of the operations involved—in sequence, by department, and with the class of labour designated against each operation, sub-assembly and final assembly. The quantity and class of material required is shown at the top of the card.

Further printed cards giving only part of this information are issued as stores requisitions, bonus (or job summary) cards, and inspection tickets. For job booking purposes the workman takes his route card to the booking office, where the job card is used to clock him off the last job and on to the next one. For this purpose the job number is quoted, together with the identifying number of the instruction card and the particular operation to be carried out. The method of obtaining labour cost against a batch of components is therefore to build up from the labour cost of each operation to

the labour cost of each cost card. The cost cards are then analysed into batches.

When the workman has been clocked on and off his jobs for a week, the card is passed to a calculating machine operator who converts time worked into money earned. When these totals have been agreed with the gate (i.e. clock) card, the job card is passed to the punched card department for punching, sorting and tabulation.

The tabulations give information under the following headings: (a) job number; (b) class of production (for this purpose a code is used to differentiate between production, tools, and standing orders for overheads; (c) control number (i.e., the identifying number on the instruction card); (d) operation number; (e) hours; (f) money value; (g) totals for each job number. Tools are costed individually under a separate sub-section of the main job; accordingly, they are separately tabulated under their own class of production.

During the week the booking clerks enter details of each booking on operation summary cards. When a particular operation is completed and the relative batch of parts or assemblies has been passed to the inspection department, an inspection ticket is sent to the rate fixing department. At the same time the operation summary cards are collected from the booking offices and passed to the wages office where they are completed.

This involves working out the amount of bonus due to each man working on a particular operation by the following sequence of calculations: total time allowed for the operation; subtract total time taken; halve the difference; spread the difference over the operators in proportion to the number of hours each has contributed to the job; convert at basic rate into money; total bonus due on each operation.

Completed bonus cards are sent weekly to the punched card department for punching, sorting and tabulation in two forms: (i.) analysis under clock number showing a detailed record of the amount of bonus payable to the man the following week; (ii.) for costing purposes, a tabulation giving job number, class of production, control number, operation number, number of hours allowed, number of hours taken, and total bonus paid. Tabulation (i.) is also used to enter total bonus due in the appropriate space on the clock card. The money itself is paid the following week, thus giving the workman time to query the amount.

Hours and money are posted manually from the labour tabulation to each individual operation on the cost card which is an identical copy of the job instruction or route card. The bonus tabulation is used to post details of time taken, time allowed and bonus paid to each operation on the cost card, care being taken to see that the figure for hours taken, which is recorded on the bonus card, agrees with the figure for total hours on the labour tabulation for each individual operation.

When bonus cards have been cleared for each operation on the cost card, the completed cards are totalled by calculating machines and incorporated in the main cost schedule for analysis under batches. Another essential of the costing system is that the total of the labour and bonus tabulations is agreed each week with the total of the payroll. In this way costing records are integrated with the financial records.

Handing in a job card at one of the booking offices.

Wages Department

Although the clock and job cards have already provided a good deal of information for the cost department, they have still to fulfil certain duties for the wages department. The story here is best begun with the arrival of a new employee. In such cases the personnel office type an engagement card showing previous employment, the position which the man is to hold, and the rate he will be paid.

This form together with the necessary authority for voluntary deductions, goes to the timekeeper who issues a clock number and a clock card, and then goes to the wages office, who transfer details to the reverse side. This is used as an employee record card, the details including name, address, date of birth, date of starting, clock number, department, trade, and rates of pay. The cards are then filed in a visible index and slips are typed simply showing clock number, name, rates of pay and deductions. These slips are colour coded to show whether the worker is productive or ancillary, and his or her grade—chargehand, skilled, semi-skilled, female, apprentice, lad, labourer. The cards are filed in clock number order and kept right up to date.

The wages week ends at 4.50 p.m. on Friday, and workers are paid one week in arrears. That means a newcomer will have to work two weeks before he gets one week's pay, but he will get two week's pay for his last week before leaving. The last clocking before wages are made up takes place at mid-day on Friday. The timekeeper (who completes the cards

Continued on page 93

Rotating Index Cuts Time Spent On 'Phone Enquiries

By DAVID MICHAEL

One of the best advertisements for any firm is an efficient telephone exchange. The businessman who finds he can "get through" without fuss is immediately impressed—especially if he has only been able to supply sparse details of the person with whom he wants to talk. This article describes how special "enquiry positions," combined with a rotating visible leaf cross index, can speed connections between caller and called.

ALTHOUGH "Enquiry Positions" in a private branch telephone exchange are not in themselves a new development, many interesting elaborations and refinements are incorporated in the system which has been installed in the Government offices now being built at Whitehall Gardens, London. The eight-place installation will, it is estimated, be able to handle 240-280 enquiries in a busy hour, with its staff of eight telephonists.

This is how the system works. If a telephonist receives a call for "Mr. Brown" and does not know his extension, function, or department, she routes the call through to the "Enquiry Position." Here a telephonist receives the call on one of six lines available to a group of four positions and she may, if necessary, "hold" it while information is sought from other sources. In this case, she checks through a comprehensive cross index mounted on a rotating visible leaf index system for a "Mr. Brown." Listed will be the appropriate extension number, which, when found, will be indicated to the main operator. The latter will then simply plug the appropriate "cord" into position on the "multiple," which will actuate automatic ringing of the extension number concerned.

All this can take place in a few seconds, depending of course on the complexity of the enquiry received, and the effectiveness of the reference system. The index will be kept up to date as part of the work of the permanent switchboard staff.

The private exchange is fully automatic, and where necessary direct hook-up with certain other government buildings can be achieved by dialling a code number.

For an "outside" call it is only necessary to dial "9." This automatically connects with a normal exchange circuit upon which calls within a radius of 10 miles from Oxford Circus may be dialled. All other calls, however, are handled through the branch exchange operator in the normal way.

The switchboard, which has 33 positions, has been installed in a specially designed room, 120 feet long. A modern, diffused lighting system throws an "easy" white light over the furnishings, equipment and walls. Like the telephonists on the main switchboard, the enquiry personnel have the best possible working conditions. Operating chairs blend with the colour scheme and the enquiry desk itself is constructed from finished hardwood. Beside each telephonist is the rotating visible leaf index system, and telephone directories housed in special slots, are quickly reached and easily replaced.

A general view of the switchboard, showing the rotating indices used for answering enquiries.

NEW for your OFFICE

Well Built Typewriter

GERMAN thoroughness has, for years, been a byword in many fields, nowhere more so than in the light engineering industry. It is noteworthy therefore that in one of the first standard typewriters of entirely new design to emerge from Western Germany since the war, is embodied all the old features of meticulous attention to detail in design, workmanship and finish.

The attractive Siemag typewriter made in Western Germany.

The *Sterling Siemag* has a standard four-bank keyboard with eight decimal tabulator setting keys. The square keys are of dull finished plastic, either black or green, to tone with the machine's finish and they are moulded to fit the shape of the finger tip.

Pressing two catches releases the whole carriage which lifts off and can be quickly replaced by a 10, 12, 14 or 18 in. assembly. Five different line spacings are provided; there is also a touch control and a red, black or stencil ribbon selector.

The "line-finder" scales are of transparent Perspex giving an uninterrupted view of the line as it is typed. Pica, Elite or special character faces can be supplied.

Examples of the careful workmanship that goes into the machine are: the working parts down to the smallest sub-lever are all cadmium plated; every nut and screw is sealed in position—this gives security and helps to simplify servicing; each key has an individual touch control so that the tension of all the keys can be adjusted to give a uniform touch.

The *Siemag* is almost totally enclosed to exclude dirt and dust and it is covered by a 12-month guarantee. A sales and service organization has been set up in this country to handle the machine.

—(*Enquiry Ref. No.* 08/30.)

Rotary Filing System

A SINGLE operator can control up to 72,000 records from one position by using the new *Rollindex* rotary cardwheel system. Units with two, three, four or five wheels mounted in a cabinet are available. The capacity of a three-wheel unit is 24,000 cards. Since the cards are not threaded on rods they are freely removable; sliding covers prevent them from falling out when the wheels are revolved.

Desk models with a table for sorting cards are supplied for normal operation, but units without the desk top are also available for grouping either side of the operator. Rubber-tyred castors allow the units to be moved around the office easily and quietly and the covers may be locked for safety.

The desk model of the three-wheel Rollindex rotary filing system.

Cards of special design are not necessary; a variety of shapes up to ledger posting card size can be accommodated.

—(*Enquiry Ref. No.* 08/35.)

Chair of the Times

THE striking modern design of the *Robin Day* executive chair, together with its soundly practical construction should make it very popular for furnishing modern offices, reception rooms and board-rooms. The back and arm rests are a one-piece laminated wood moulding and may be finished in a range of veneers. The arm rests are so designed that they can be used as a small desk for taking notes at meetings, etc.

Hundreds of these modern Robin Day chairs have been installed in the Royal Festival Hall.

The foam rubber upholstery can be covered in *Tibor* fabrics or any other material required, and the steel frame is stove enamelled. Over 700 of these chairs have been used by the London County Council in their new Festival concert hall on the South Bank

—(*Enquiry Ref. No.* 08/34.)

Continued overleaf

For Executive Comfort

AN executive chair in the luxury class is the *BS.* 68. Equipped with a fore and aft tilting device and a heavy cast base, the chair is very stable and has a perfectly safe tilting action.

The swivel seat, back, and arm rests are all fully sprung and designed to give correct support

The B.S.68 executive chair.

and posture. Upholstery may be in either hide or uncut moquette, green or brown in colour. A height adjustment feature is incorporated in the design.

—(*Enquiry Ref. No.* 08/33.)

Suspended Sideways

A SUSPENDED filing system that uses five rails fixed in a cupboard instead of the conventional drawers, saves valuable office floor space by eliminating the "dead area" necessary for opening the drawers.

Special filing folders, available in a wide variety of shapes, sizes and styles, clip on the rails with a single bayonet slot lock. 400 files—twice as many as will fit in a four-drawer cabinet—can be stored in one of these cupboards measuring 6ft high by 3ft. wide by 16ins. deep.

Identification tabs fixed on each file are visible from both the top and the side. This allows the correct file to be picked out immediately from the top or bottom rail. Guide and "file out" cards to show the whereabouts of missing files, and special pockets for storing litho plates, plans and drawings are available.

—(*Enquiry Ref. No.* 08/31.)

Simplified Tax Deductions

P.A.Y.E. and accounting methods that use a system of specially printed cards and carbon paper to save repetitive writing are not new. The *Taylorix Payeasy* portable accounting system, however, embodies a number of new features that make it of particular interest

Basically it consists of a writing table with a pair of clamps that operate two rows of spring loaded pegs to hold the forms, carbons and record cards firmly in position; a light alloy cover with a fold-flat storage tray for cards; a lock; and a carrying handle.

When used for calculating tax deductions the tax card, a wages sheet for 16 workers and a similar number of pay packets (folded in a special flat, staggered arrangement) are clamped to the board. The wages sheet and pay packets are included in a pack of forms complete with carbon papers. Entries made on the deduction card are automatically transferred to the wages sheet and the pay envelope. The envelopes are torn off, the wages shown are inserted and the flap may then be sealed down—if necessary concealing the details printed on it.

A double entry book-keeping system can also be operated with the *Payeasy*. Different cards serve as journal pages, statements, receipts, etc., and reduce most ac-

400 suspended files fit into this 5-rail cupboard.

counting operations to a single writing.

An advantage of the system is that it can be readily adapted to mechanized accounting.

The manual accounting board complete with case and forms, weighs only 10 lb.; it measures 15 ins. by 17 ins. by 2 ins. and has a black crackle finish.

—(*Enquiry Ref. No.* 08/36.)

The Payeasy manual accounting board with its carrying case.

Now—as if I should know!

IT'S ALWAYS THE SAME with the directors. Ask questions that would take three weeks to answer, and want the figures by three this afternoon. This morning they wanted to know the value of our present stock of counter fittings. They should ask the Roneo people to bring us more up to date. We want Roneodex, that's the equipment for the recording of awkward facts.

Every recording problem is an individual job. Roneo answers each individually.

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Short Cuts to OFFICE EFFICIENCY

HOW U.S. OFFICES CUT PAPERWORK, SAVE TIME

SINCE the report of the Anglo-U.S. Productivity Council's team on Management Accounting (reviewed in the January issue of BUSINESS), members of the team have been addressing meetings and conferences all over the country. At these, they have drawn considerably on experiences not recorded in the report, and BUSINESS records some American short cuts culled from these meetings.

Every care is taken to make sure that the number of routine reports prepared and circulated is kept down to a minimum. Americans use a report only when it can be justified, and are ruthless in cutting out reports that cannot be used One controller said: "Once a year, I stop sending out reports altogether. If people start shouting, I know they want the report." Not all firms are as drastic as this, but most of them reviewed once a year every report that was sent out.

The Americans are lucky (or wise) in having a decimal currency. On their return to Britain, members of the team discovered one or two British companies that were using decimal currencies internally. They reckoned the saving in time taken in accounting and office practice to be as much as five per cent.

U.S. Forecasting Methods

Many British firms get out some sort of forecast of future developments. Many American firms go further, and get out a whole series. The team found that in some cases there were several forecasts current at the same time in one firm. When the management were going to make a decision, they would want one or two possible forecasts as to what would happen if they decided on alternative courses of action. They would keep all the forecasts for the different courses of action current, even though only one was actually adopted, and, where possible, make

VISIBLE RECORD SYSTEMS

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You can always COUNT on the

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Telephone: CENtral 3611

SALES AND SERVICE THROUGHOUT GREAT BRITAIN

their variances from actual against all the different forecasts, to see how it would have gone, one way or another. They also had different forecasts for things beyond the control of management. The controller might produce two or three different forecasts according to whether the price of something went up or down, or whether there was a war or not, and so forth. They would be using these alternative forecasts continually, so as to get the best use out of the figures presented.

Estimates Instead of Actualities

To get figures out rapidly, estimates were widely used rather than actualities. About the 20th of the month, the accountants would stop recording actualities and make estimates for the next ten days in order to get out their profit and loss accounts. One office manager said: "I am paid to make estimates. If you want only a record of actuals, you might as well get somebody at half the price. And if I do not guess right, I shall get only half the price too."

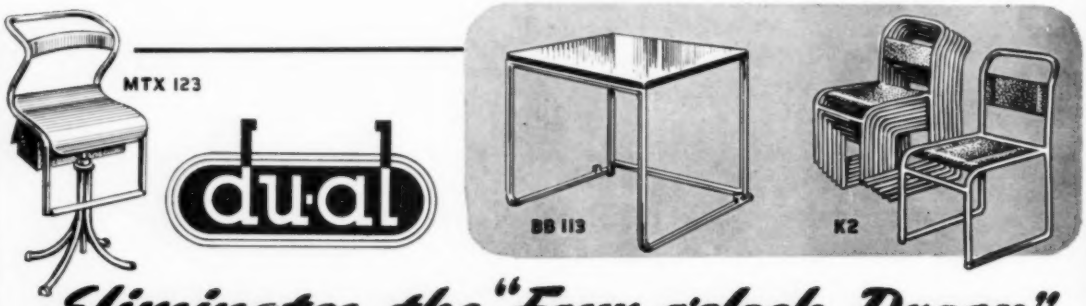
Americans do not describe their profit and loss account as such; they normally call it an "income account." What we call the balance sheet they often describe as a "statement of the financial position." Similarly, at the end of their income account there was a tendency to avoid the use of the word profit, but not for motives that may have inspired similar motives over here. They were describing it as "surplus" or as "income retained in the business." The whole purpose was to express what it represented more adequately to the shareholders and employees.

Clearing Paper Work Quickly

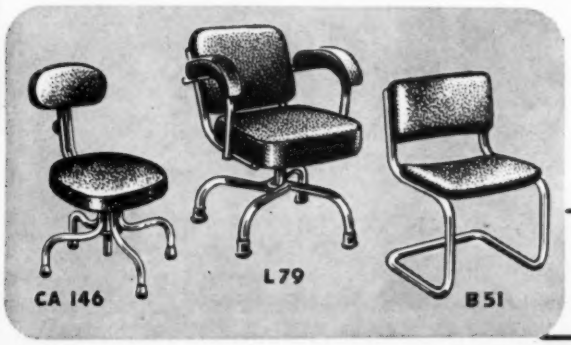
It is common practice to pay suppliers' invoices immediately the goods are received, without waiting for inspection. An office manager explained, "We have dealt with these suppliers for a number of years, and we know that, should there be trouble, they will take retrospective action." In that way they were able to clear paper work quickly.

Paper work in regard to small items of stores is kept down to a minimum. Americans do not bother to make out complicated requisitions for small items. A man wanting a few nuts, bolts or screws will take a handful from the bin. The difference in weight is noted at the end of a week, and the whole lot booked out as a single item. The whole idea is to keep things simple, and not waste time and trouble in checking small items of expense. The policy is: "Keep your eye on the big things and just a general check on small ones."

In one firm, the storekeeper took stock with a wire recorder. He walked along the aisles of bins with the recorder strapped knapsack-fashion on his back, shouting the items into the microphone as he went.



Eliminates the "Four o'clock Droop"



You will find, as have many leading industrial organisations that it will pay to investigate and install "Du-al" chairs and tables for your offices, factory and canteen.

"Du-al" furniture is comfortable in use, versatile in its variety of colours, materials and finishes, designed and styled to harmonise with almost any type of interior.

A qualified representative will be pleased to call and give free advice on all seating problems, write today for an appointment.

ALL TYPES OF STACKING CHAIRS AND FACTORY CHAIRS ARE FREE OF PURCHASE TAX.

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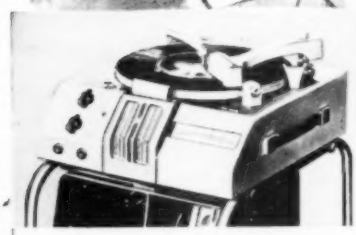

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ELECTRONIC DICTATION MACHINE

Makes office work far easier—far more efficient. Having dictated his correspondence, reports and instructions to the Emidicta, the busy executive can be out all day with the comfortable assurance that the typists' work is not held up—and is completed ready for his return.

The running costs of the EMIDICTA are negligible. It carries a 12 months' guarantee backed by one of Britain's finest service organisations.

Let us prove the value of the EMIDICTA to you, without any obligation on your part, by a demonstration in your own office.

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The EMIDICTA is a product of the E.M.I. Group (His Master's Voice, Marconiphone, Columbia, etc.) past masters in the art of recording and sound reproduction.

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Please send descriptive brochure.

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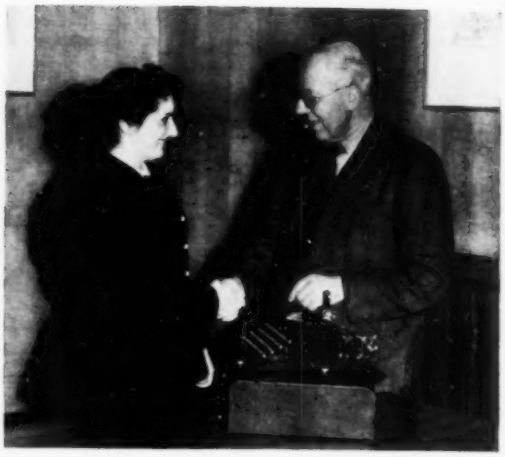


Mr. A. Pateman, managing director of the Imperial Typewriter Co., Ltd., presenting Mrs. K. Hewitson, winner of the *News Chronicle* National Speed Typewriting Contest, with an Imperial portable.

NEARLY 53,000 people visited the Business Efficiency Exhibition in June—the largest attendance in the history of the Office Appliance Trades Association.

The volume of enquiries received was, according to most exhibitors, well above that of previous exhibitions, though not all the business offered could be accepted because of shortages of raw materials.

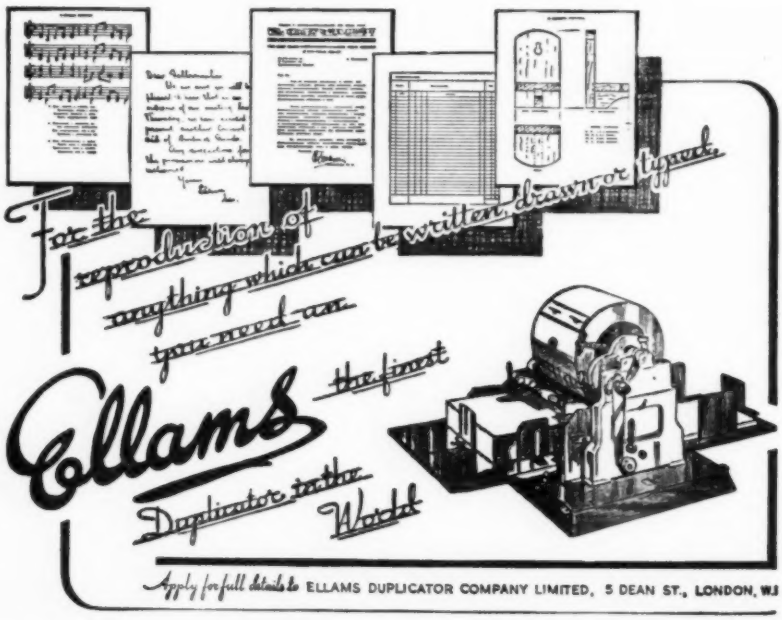
Culmination of the successful exhibition was the dinner given by the O.A.T.A. at Grosvenor House Hotel, at which Mr. G. R. Strauss, Minister of Supply, was to have been guest of honour. Pressure of Parliamentary business, however, prevented his attendance, and his speech was read by Mr. D. G. Cooper, assistant secretary, Ministry of Supply. Mr. W. B. Woods, president, O.A.T.A., responded.

The toast of the International Association of Office Equipment Industries was proposed by Mr. H. E. Stiles, and was responded to by Mr. J. A. Cuming. The toast of the guests was proposed by Mr. B. B. Dyer; Mr. H. Hunink, of Holland, responded.

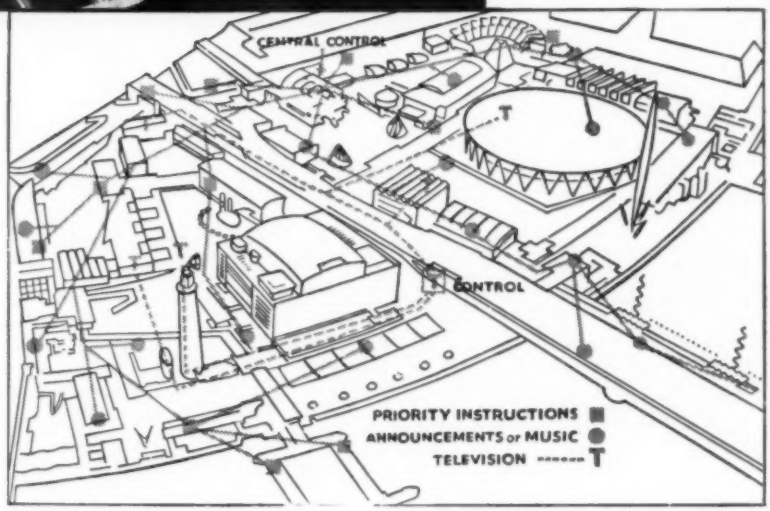
Another provincial exhibition is being organized by the O.A.T.A., this time at Bristol. It will take place from September 25 to 28.

★

RESULTS of the 1951 *News Chronicle* National Speed Typewriting Contest, the final of which was held at Olympia during



Serving 1,200 loud-speakers on the South Bank Site



The public address and crowd control systems on the Festival of Britain South Bank Site comprise over 1,200 loudspeakers, all fed from Central Control. The installation and operation of these systems, in addition to the television distribution, is entirely the work and responsibility of Rediffusion.

Where a staff location system is required or when a decision is reached to introduce "Music-while-you-work", the example of the Festival authorities in selecting the services of Rediffusion cannot be bettered.

Rediffusion the voice and vision of the Festival of Britain

Central Rediffusion Services Limited, Carlton House, Lower Regent Street, London, S.W.1. Telephone: Whitehall 0221/30

the Business Efficiency Exhibition, have been issued. The first two contestants, Mrs. K. Hewitson, of Carlisle (86.5 words a minute) and Miss H. M. Smith, of Southport, both used *Imperial* machines. Miss Todd, of Glasgow, was third using a *Remington*. Of the twenty finalists, 11 used *Imperials*, five *Remingtons*, one *Royal*, one *Bar-Lock*, one *Halda* and one *Oliver*.

★

EXECUTIVES and employees at the Hammersmith factory of International Time Recording Co., Ltd. recently listened to Mr. Thos. J. Watson, chairman of the board of the IBM World Trade Corporation, speaking from Toronto, Canada. The occasion was the laying of the foundation stone of a new IBM factory in Toronto; the ceremony was relayed by New York in a world broadcast.

The Hon A. G. L. McNaughton, chairman of the Canadian section of the Joint Defence Board, and former Canadian Consul General in New York, gave an address. Mr. E. Stafford Howard, managing director of International Time Recording Co., Ltd., and Mr. T. A. Kirkland, vice-president, IBM World Trade Corporation, spoke at Hammersmith preceding the broadcast.

★

TRIALS are now being carried out on the manufacture of nylon typewriter ribbons. Broad loom cloth is being slit with a hot knife and the cut edge is adequately sealed by the fusing which takes place.

It is possible that typewriter ribbons made from spun nylon staple yarn might be even more suitable than continuous filament, but experiments have not yet reached the stage at which this can be decided.

Nylon typewriter ribbons made from continuous filament yarns are available in the United States, made by Remington Rand. A number of British firms have been investigating the process, but they report that while the new ribbons offer greater wear than cotton ones, they have not yet been successful in solving the problem of ink penetration and retention.

★

DECENTRALIZATION of the London branch of Telephone Rentals Ltd. has been so successful that the management decided to reorganize the engineering side of the business, and this led to a considerable reduction in operating costs. Mr. Fred T. Jackson, O.B.E., Comp. I.E.E., reporting this at the company's annual meeting, added that they had received a greater number of enquiries for their products in 1950 than ever before. Profits amounted to £454,783, against £366,475 in the previous year.

★

AS a result of reorganization, Rediffusion, Ltd. has now become the largest subsidiary of Broadcast Relay Service, Ltd. Total assets of the group now amount to £9,985,456, against £8,670,324 a year ago.

Copies same size . . . enlarged . . . or reduced.

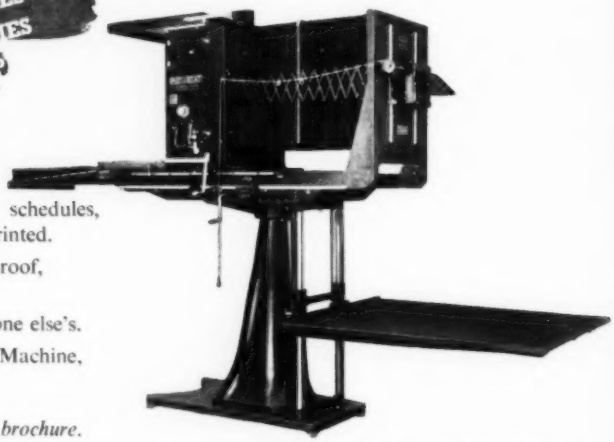
Copies of letters, reports, charts . . . of graphs, schedules, specifications . . . of anything written, drawn or printed.

Copies that are photographically accurate, error-proof, needing no checking.

Copies that save your typists' time . . . and everyone else's.

'PHOTOSTAT' copies, made on the 'Photostat' Machine, simplify and speed up office routine.

Can the 'Photostat' Machine help you? Write for brochure.



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'PHOTOSTAT' is a trade-mark

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The attractive publication illustrating this development will be sent to you without cost, if you ask for folder 548/2

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WITH PROFITS

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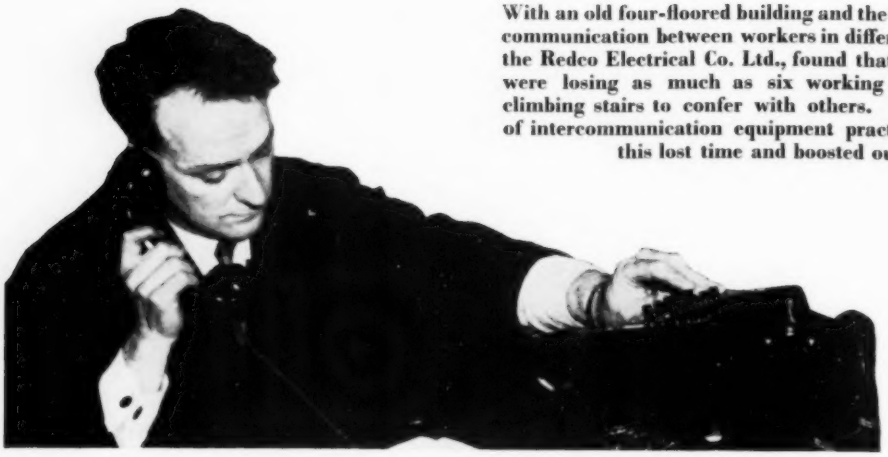
THE PRUDENTIAL ASSURANCE CO. LTD.

HOLBORN BARS, LONDON, E.C.1

With an old four-floored building and the need for constant communication between workers in different departments, the Redco Electrical Co. Ltd., found that some operatives were losing as much as six working hours a week in climbing stairs to confer with others. The introduction of intercommunication equipment practically eliminated this lost time and boosted output.



The general manager is in touch with all his staff.

This Intercom System Solved A Progress Chasing Problem

By A. G. THOMSON

LIKE many other British firms the Redco Electrical Co., Ltd., of London, are obliged to carry on their business in premises which are far from ideal. The layout of the workshops has of necessity been governed by the limitations of the building, and the basic problem is to use most efficiently the space available for production.

The company are electrical engineers, specializing in coil and armature winding of all types and in the electrical maintenance of motor vehicles. A replacement service for the automobile electrical industry is maintained, covering dynamo and starter armatures for every type of vehicle. In addition, the supply and overhaul of portable electric tools is undertaken, tools being hired out to customers while their equipment is repaired.

Orders are received from all over the country, many of them being of an extremely urgent nature.

The works comprise a small machine shop, stripping shop and fettling shop, as well as machine and hand coil winding shops, soldering and varnishing stores, etc. All these activities are carried out in a three-storey building with a basement, with a staff of over 25.

Jobs flowing through the works range from motors for refrigerators and other domestic equipment to the larger types used in industry, as well as the automobile equipment, portable tools, etc. Planned progress for every job is necessary in order that delivery promises can be kept.

Each job is handled by a number of different departments. It is first prepared in a separate section, then passes to the winding shop. After the armature has been wound, the job is soldered and completed, and passed to the varnishing shop. Finally it is tested before being returned to the stores for dispatch.

Close contact has to be maintained between the office and the various shops, between the office and the stores, between the stores and the shops, and between one workshop and another. Numerous inter-departmental enquiries are made each day, and in the absence of a suitable intercommunication system executives, charge-hands and fitters wasted much time and energy in climbing up and down stairs to obtain information they required. Telephoned enquiries from customers frequently involved a hasty visit to various departments on different storeys to check the progress of a particular job.

Consideration was therefore given to the installation of an intercommunication system which would overcome the disadvantages presented in a business spread over the whole of a four-floored building. The problem was approached from a strictly economic standpoint, the directors holding that an intercommunication system—like a new machine tool—would only be

Hand-sets in the departments are for originating calls.

justified if its cost could be more than recovered by time saved on production. Attention had to be given to the possibility of saving time for the works staff as well as for executives and office staff. A conference was held at which several charge-hands and craftsmen were asked how much of their time went in running up and down stairs to communicate with one another. A typical reply showed that the charge-hand in a winding shop on the second floor and a turner in the basement had to communicate with each other about a dozen times a day, each visit representing about five minutes of wasted time and energy, and for these two men alone 12 hours a week could be saved.

Study of the problems involved showed that the company's particular requirements could not be fully met by the installation of telephonic intercommunication, nor was public address equipment an effective solution. What was needed was a system that afforded instantaneous two-way communication through valve amplified equipment. Being electrical engineers the directors were convinced that this was technically possible. In the course of their enquiries they came across a development known as *Telesound*, which was about to be placed on the market.

On this system the handset is equipped with a device which sends out the speaker's voice through a broadcaster to any desired department, the various departments being equipped with microphones and contacted by push-button control. Any person in the department contacted can answer back and be heard distinctly, even if he is 25ft. from the microphone.

After a demonstration the directors decided to give the system a trial. Each department was equipped with a microphone, handsets being installed wherever facilities for originating calls were desired.

Progress chasing has been simplified to a remarkable degree. All this work can now be done by the assistant manager from his desk, while the knowledge that they can be contacted at any moment tends to encourage the works staff to keep more closely to the scheduled programme. Moreover, the men in the shops can answer the calls and give the information required without lifting a hand from their work. This is an important advantage in, for example, the winding shop, where a fitter may have both hands fully occupied on a long and delicate operation. Often it might be inconvenient or even dangerous to leave the job at a critical point to answer the 'phone.

Another important consideration is that the man making the call has his mind already tuned to what he wants to say, but the man at the receiving end may be adding up figures or concentrating on the operation of a lathe, so that a 'phone call to him may be extremely irritating. If George answers the 'phone and finds that the call is for Fred, two men are called away from their work—possibly to discuss some matter that could quite well wait. The directors believe that these disadvantages have been effectively eliminated by the system installed. If a man is busy on a job requiring all his attention, he simply says so and rings back in a few minutes, when he has his mind on the subject to be discussed.

When people are working under heavy pressure constant interruptions are liable to result in mistakes, whether in the workshops or the general office. The directors were originally of the opinion that the general office was too public for the installation of a loudspeaker. In view of the constant 'phone calls received, they subsequently decided that a speaker would be a valuable asset, since it

THE PROBLEM.

Charge hands and progress chasers lost working time travelling from floor to floor following up queries.

THE SOLUTION.

Installation of a new type of intercommunication system that enables workers to receive and answer calls without leaving their bench.

THE RESULT.

Lost time reduced to a minimum and output consequently increased. Customer relations also improved.

would prevent the typist from being called away so frequently from her typewriter or the accountant from his books.

When a customer rang up to ask about a job, it used to be necessary to put down the receiver, shout to the storekeeper, and possibly visit several departments to obtain the information required. Either the customer was kept waiting for several minutes or he had to be rung back. The works manager can now, without leaving his desk, locate and contact the stores and/or man engaged on the job, thus keeping the customer waiting for perhaps one and a half or two minutes instead of five minutes. Alternatively, the customer can be put straight through to the man concerned.

Customers have commented on the promptness with which their enquiries are now answered, and there is no doubt that this efficient service is bringing additional goodwill to the firm. Surprise has been expressed at the speed with which the company are able to find out the exact stock position of any article. In effect, the entire staff is immediately at the customer's disposal as soon as he rings up.

The staff are delighted with the system, which any member of the firm, whether foreman or office boy, is allowed to use for his own affairs. Thus Bob can call Fred and arrange to lunch with him, or ask him whether he backed the winner of the 2.30 race. Human nature being what it is, the system is unquestionably used for many purposes not strictly relevant to the business of the firm. The directors consider that the company gains, because men no longer leave their work to talk to a friend on another floor.

In some departments where no handset has been provided, a system of signalling has been devised by the staff. A man wishing to make a call simply flashes the G.P.O. receiver and the office then rings through.

In certain shops some difficulty was experienced on account of the noise of lathes, polishing heads and other machines. To overcome this problem a bell has been fitted as a signal that a call has been put through, and the speaker has been boosted up, but now that the men are becoming accustomed to the system, the noise problem has been largely overcome.

In general, the benefits resulting from the installation have exceeded expectations. The cost of rental is more than recovered by the saving in the time of charge-hands and other workers, plus that of the executive responsible for all details of progress and routine throughout the works. There is no question that inter-communication has both increased production and improved control, besides proving extremely popular with the staff. In view of these benefits, it is now planned to install a complete system of handsets and microphones on every floor, thus providing full inter - communication facilities throughout the building.

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Similar to Type B but with 13′ 6″ boom giving maximum height of 9′.

TYPE E
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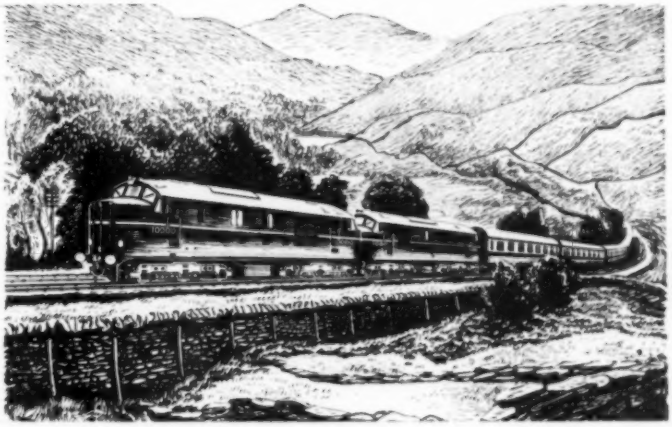

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Survey of Modern INDUSTRIAL EQUIPMENT

PROCESS EQUIPMENT

Specialized Chamfering Machine

A NEW automatic double-ended internal chamfering machine—for chamfering both ends of screw type pipe couplings—has two rates of spindle speed, making use of rotor-stator heads with a pole-changing switch. Relative head to head adjustment is maintained by means of the adjusting nuts on the coupling bar. The traverse is hydraulically operated and sliding movement of heads is arranged with double rack mechanism and coupling bar on the front of the machine.

The work holding fixture has a magazine feed, the components being fed forward by a hydraulic ram into self-centring vee blocks. These hold the coupling under pressure against the cutting action of the heads Automatic work ejection is incorporated in the fixture and the machine operates on an automatic cycle. The various slides are maintained in sequence by electrical interlocks, variation of cutting head feed rate being effected by a flow control valve.

—(*Enquiry Ref. No. A*.51/20.)

This machine automatically chamfers both ends of pipe couplings.

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INEXPENSIVE, the *Pacera* articulated (radial type) drilling and tapping unit has been designed for drilling small holes—up to ⅜in.—in large castings. This type of work frequently requires the uneconomic use of expensive equipment.

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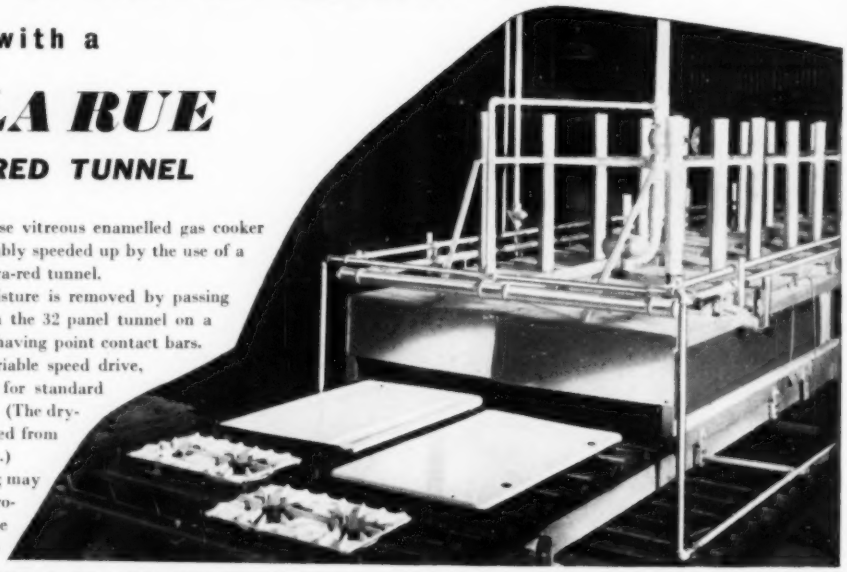

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Northern Area: 4 Albert Square, Manchester 2. Midlands Area: Portobello Works, Warwick.

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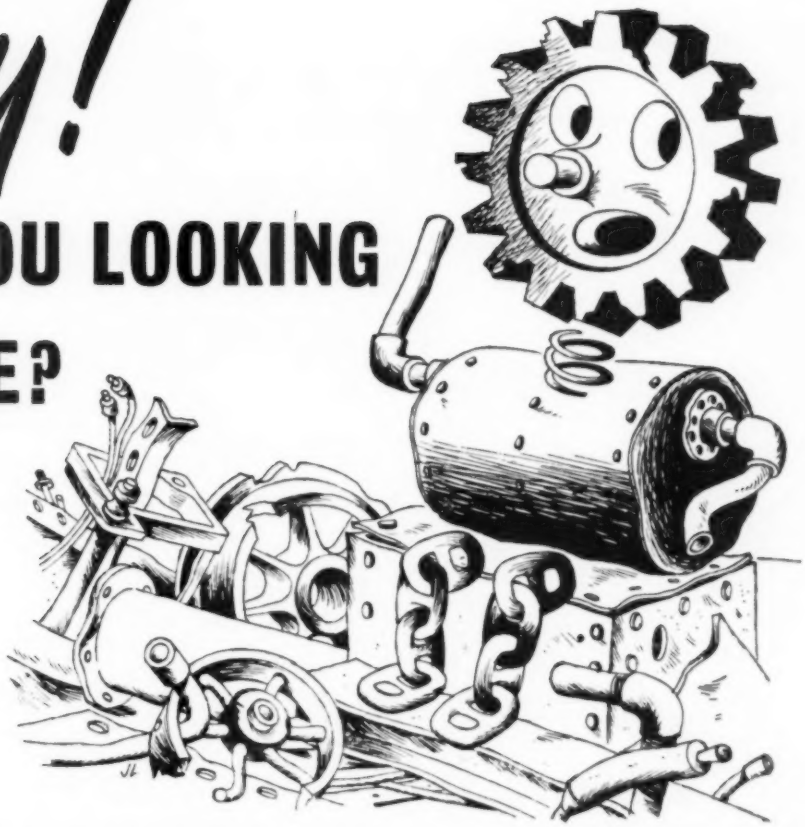

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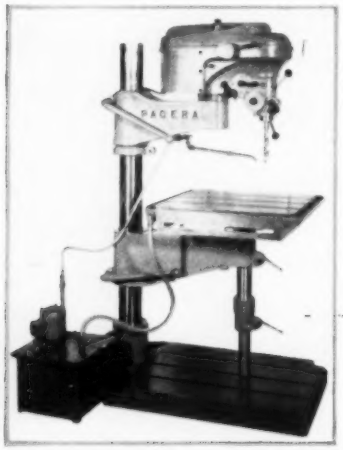
carried on the base. The work-table, support arm and head all revolve on ball thrust races.

The eight or ten speed head has an external gear change lever (high and low speed settings—80/4,000 to 80/1,500 r.p.m.) and may be locked positively in any position. The drill point may be easily brought to any point on the surface of the table.

Throat depth is 24in. and distances from spindle to table and spindle to base are 21in. and 46in. respectively. The spindle is bored No. 2 morse taper to take taper shank drills, tapping attachment or chuck.

—(*Enquiry Ref. No. A*.51/21).



The heavy duty Pacera radial drilling and tapping unit.

PORTABLE POWER TOOLS

Safe Sawing

COMPLETE protection for the operator is claimed by the manufacturers of a new portable electric saw, the *R.S.*10. A steel, spring loaded guard covers the blade and is pushed back as the machine enters the work. The mechanism of the guard is covered by a dust and swarf-proof housing.

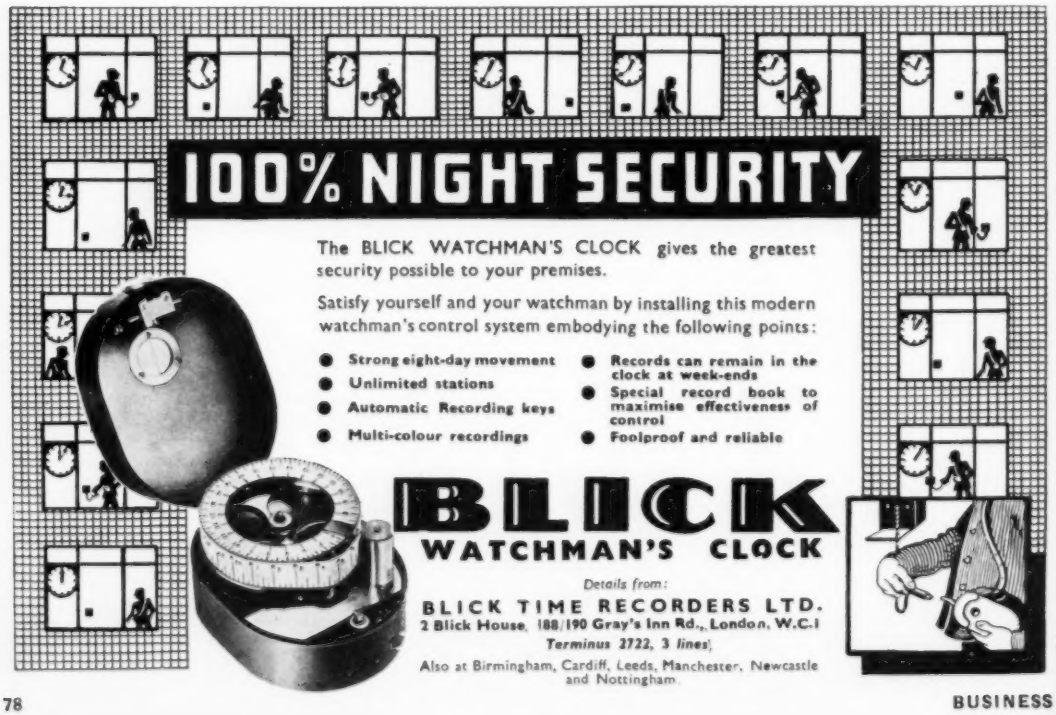
A magnesium alloy frame makes for lightness and portability and the powerful motor remains cool under a continuous heavy load.

The R.S. 10 in action cutting corrugated metal.

Blades for a wide variety of work are available, including cutters for ripping and cross-cut work and special blades for use with composition sheets, plywood or corrugated metal.

The *R.S.*10 is housed in a strong steel carrying case and there is room for storing the spare saw blades, etc.

—(*Enquiry Ref. No. A*.51/22.)



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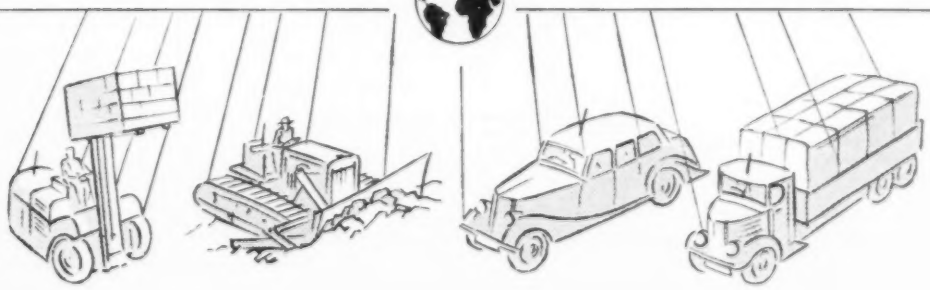

Simple Truck Hoist

LOADING drums, sacks and crates on lorries by hand is heavy, tiring work and few small factories and warehouses can afford full scale mechanical handling equipment.

The *Johnson-Wedco Hoist Truck* has been designed to eliminate hand loading. Similar to a porters' hand trolley, it is locked on the back of the lorry with a screw-clamp device. Goods loaded on the platform are easily raised to the required height by winding a handle, the whole platform sliding upwards in metal side runners.

—(*Enquiry Ref. No. A*.51/23.)

Loading sacks using the Wedco Hoist Truck.

Novel Bin Discharger

DISCHARGING granular or powdered material from bulk storage bins in warehouses and stores tends to be difficult because "avalanching" often chokes the outlets making it impossible to obtain an even flow.

The new *Bulkbin Discharger* employs a pair of chains joined together with cross-slats to overcome this difficulty. The chains are drawn alternately through the material in the bottom of the bin causing the slats to move with a guillotine action ensuring an even, regulated flow through the outlet ports. The bins (made in a wide range of standard sizes), can be raised off the ground to allow a conveyor to be built underneath to carry away the discharged material.

A built-in electric motor drives the chains, connected to it by straight tooth spur gearing giving the very big reduction necessary for the slow, alternating motion.

The bins are made of sheet steel, have removable floors and are automatically swept out by the travelling cross-bars when empty.

—(*Enquiry Ref. No. A*.51/24.)

Right Height—Always

CLAIMING to promote faster handling with less backache, the *Lowerator* or spring compensated platform container is a new piece of equipment of interest to plant executives.

The unit is useful for jobs requiring a table or platform which remains at a constant height from the floor, even if weight on it is increased or decreased. As articles are loaded on to the platform it sinks so that the top level of articles remains at a pre-deter-

Adaptable!

A very handy and flexible layout is shown here, consisting of an ultra-portable belt conveyor feeding to a machine of more normal design.

Such a layout enables large storage areas to be used with a minimum of manual effort, both for stock-piling and reclaiming.

-and Portable!

While it is not often required to shift a portable conveyor by means of a wheelbarrow, this illustration shows the true portability achieved in this case by T. & T. design and construction; the machine shown has an 18" belt, is 20' long between centres of end drums.

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mined, convenient height for the process involved. Conversely, when articles are removed from the platform it rises to maintain the same convenient height.

Action of the adjustable spring compensating mechanism is simple; it will automatically keep pace with an operator and uses no outside power. Requiring almost no servicing, it is valuable for such applications as machine feeding, machine "take off," inspection and processing from one *Lowerator* to another. It can be a fixed unit, handled by a forktruck, platform truck or conveyor, or can be mounted on wheels.

Several types of this unit are available, including models for loading discs, where each circular platform operates independently; for trays of articles, where one single platform is used; and for loading sheet, strip or bar up to a total weight of four tons.

—(*Enquiry Ref. No. A*.51/25.)

The Lowerator spring compensated platform container, together with trays.

GENERAL EQUIPMENT

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DUST rising from concrete floors can be a serious nuisance in industrial premises and can result in damage to machines and injury to the health of employees. Cause of the trouble is the break up of the soft particles of carbonate of lime in the concrete. *Fluat Cement Hardener* seeks to remove the cause of the trouble by converting these soft particles by chemical action into a hard crystalline substance unaffected by hard wear, oil or weak acids.

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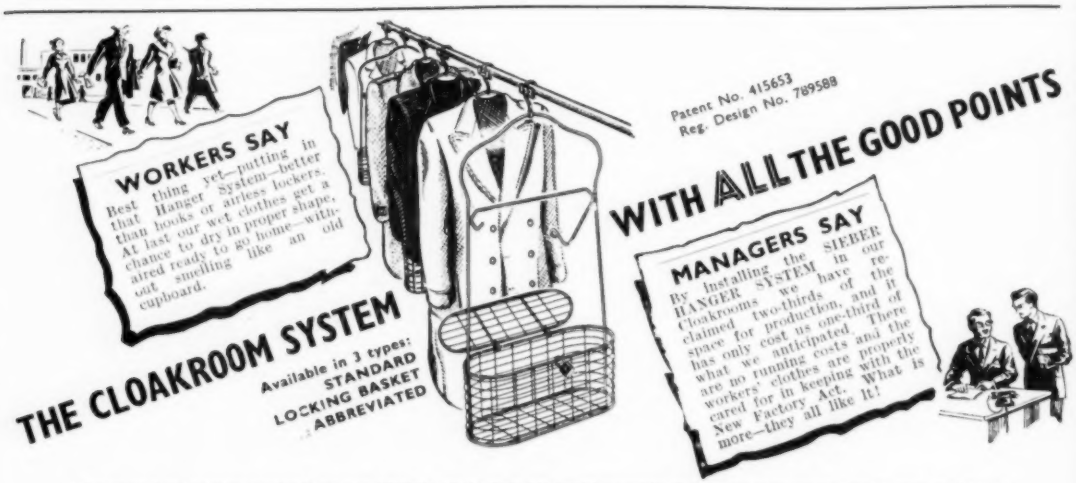

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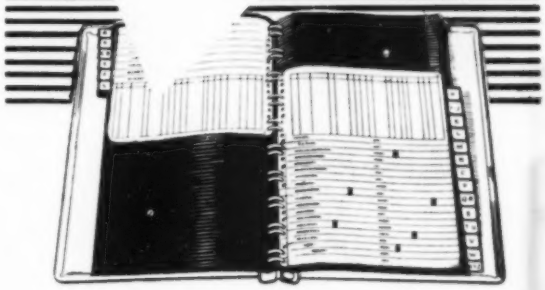

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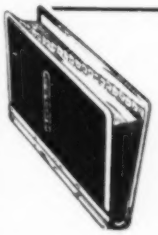
Just write "Shannoleaf" on your letterheading and full details will be sent you by return.



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How Batchelors Practise a Progressive Welfare Policy

Reorganized after the war, the welfare and personnel departments of Batchelors Peas Ltd., not only cope with normal staff requirements, but also deal with seasonal increases which nearly double the payroll.

By HAMISH ROBERTSON

DURING the last 30 years Batchelors Peas Ltd.—the food packers and canners—have expanded from a family business employing about 100 people to a large public company with nearly 3,000 on the payroll. This tremendous development has been the result principally of a flair for the business, hard work, and good human relations both inside the company and with customers outside. This has been carried through into the field of relations with labour organizations.

The present management (headed by Lt.-Col. Maurice W. Batchelor, J.P.) is pursuing a progressive policy on the same lines, and this naturally embraces welfare facilities and labour relations. Following the busy wartime years and their inevitable improvisations, the company began to re-organize the personnel and welfare departments. The Personnel Officer, Mr. K. H. Wheeler, carries out the work formerly done by several different people and, in addition, supervises personnel matters in the two feeder factories. (The other large Batchelor factory has a separate but similar organization.) To help him he has a staff consisting of an assistant personnel officer, four staff members, a full-time nursing sister, nurse and first-aid assistant, a part-time medical officer, a part-time fully qualified chiropodist and a large canteen staff.

The personnel department has also moved into new quarters, which were formally opened a short time ago by Sir Robert Hyde, founder of the Industrial Welfare Society and an old friend of Batchelors. These premises are built in a central position inside the factory so that it is very easy for employees to get to them irrespective of where they work. They consist of the personnel officer's room, a main office, an interviewing room for people applying for jobs, a waiting room, a surgery, a doctor's consulting room, a rest room and a chiropodist's room. Separate cubicles are provided for patients; the modern surgery equipment includes a special chiropody chair and infra-red and radiant heat lamps.

During the busy season in the summer the factory works on shifts and arrangements are made for both the surgery and the personnel office to be staffed for both shifts.

In Sheffield the company employ some 700 factory personnel (including 450 women) and an office staff of about 160; whilst in the two outlying factories there are about 320 workpeople of whom about two-thirds are women. In the busy summer season, when fresh produce is being canned, these numbers rise to 1,500 or more in the Sheffield factory, and it is this vast seasonal increase in labour which poses a special personnel problem for Batchelors. Some 100 university students and some 700-800 additional female workers have to be engaged.

This summer influx with its attendant administrative difficulties is solved in Sheffield, largely by interviewing prospective employees as early as May and June

Inside the well equipped surgery at the Sheffield works.

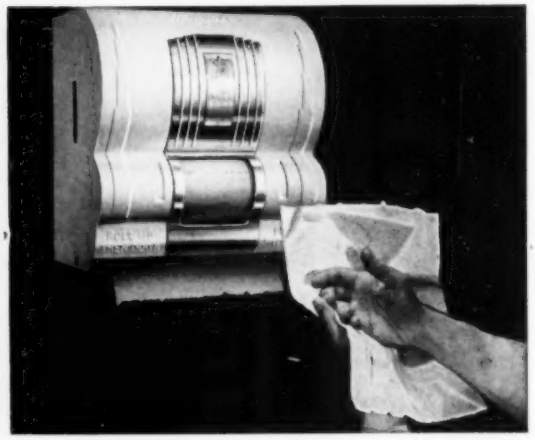
Family portrait. Father (visiting the factory) watches mother and daughter filling cartons.

for a July start. In this connection the company has the advantage of being long established in the district. In addition, Batchelors carry out a steady programme of labour recruitment throughout the year.

Batchelors firmly believe that few people can do a job well without being shown how, and that most do so much better simply because they are started off properly. Therefore, all new employees are given a special course of training before being put on a job. This applies particularly to normal recruitment of young female labour. The flow of applicants of this type is channelled through the local Youth Employment Bureau and is encouraged by a regular system of inviting girls who are about to leave school to tour the factory and see conditions for themselves.

Once accepted the girls are given a six weeks working-training course, which includes training in all the jobs in the factory which they are likely to be called upon to perform. It also includes a series of talks on various aspects of life inside the company as well as subjects like accident prevention and personal hygiene. During this training period the girls are also taken on a visit to another factory which is connected with the supply of material used by Batchelors.

A Batchelor innovation is that at the end of the course, parents are invited to visit the works to see for themselves the work their children will be doing and to have tea and a chat with the personnel officer. The personal contact is useful—parents like to see what



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In common with many other large companies, Batchelors have a number of other welfare activities, including a subsidized canteen where the cost of meals is graduated according to age and sex (the main meal costs the employee from 6d. to 1/1d., at the present time); sick benefit; men's pension fund; staff superannuation; long service awards; marriage gifts and the like. As the factory at Sheffield is about a mile from the nearest main road, a special bus service is arranged for the benefit of employees, and a further facility is the provision of overalls and head scarves, which are laundered free of charge.

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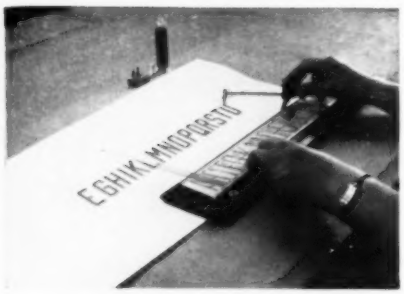

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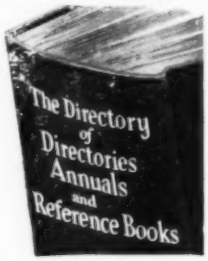

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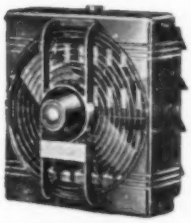

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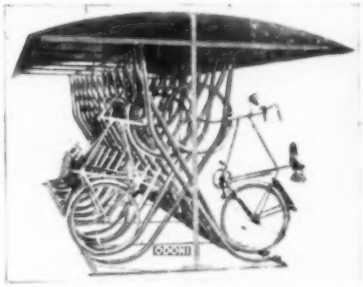

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Canteen and Catering

Tell the Workers about Canteen Costs

By PETER MARTIN

BEER, buses, newspapers, and now—canteen meals. As one commodity after another goes up in price, the pay packet shrinks and the worker starts thinking in terms of another increase in salary. Failing that, he puts less into his job. Such is the result of reducing the standard of living.

An increase in canteen prices is particularly unfortunate, since workers have come to regard the meals-at-work service as one of their natural rights. Many of them think the canteen is something which the employer can well afford to subsidize, no matter what the cost. Some even have the idea that managements make a "good thing" out of canteen meals.

There is only one way to deal with the present situation, and that is to produce the facts and figures of canteen operation. A bald statement that canteen prices must go up because of increased costs does not allay suspicion or carry conviction. Facts—some of which the men's wives will substantiate from their own housekeeping budgets—will carry much more weight.

Employers should tell their workers that canteen managers and industrial catering contractors have received no favours from suppliers when purchasing food, equipment, fuel, lighting, and the thousand-and-one items which are essential for running their service.

They have, of course, been able to buy on wholesale terms—but that is a concession which is available to anyone who works on a

Summarized from the July issue of Personnel Management, Welfare and Industrial Equipment.

Because of rising costs, prices of food and drink served in industrial canteens will have to go up. This is the effect of a memorandum from the Industrial Catering Association, the Industrial and Staff Canteen Division of the Caterers' Association, and the Railway Canteen Committees' Association. Since workers are likely to ask questions about these charges, managements should be ready with the answers.

fairly large scale. So it is that canteen costs have risen just as much as those of commercial catering organizations.

Wages are another good example. These have been laid down by the Canteen Wages Board Orders, and the rates have been increased more than once since this wage-fixing machinery was set in motion under the Catering Wages Act of 1943. In many cases, firms have been obliged to offer still higher rates in order to attract canteen workers to particular areas.

All Running Costs Up

Most people know how food costs have risen and are well aware that the Government has decided not to step up the food subsidies *ad lib.* This is another point at which managements may be helped by comparisons with prices charged for similar meals outside the factory.

Crockery, cutlery, cooking stoves, sinks, kitchen appliances like potato peelers, mixers, beaters, slicers, etc.—these and many other things associated with the canteen, cost far more now than they did when the prices of canteen food and drink were fixed.

Heating, lighting and ventilation (where this is mechanically achieved) are more expensive; charges for laundering overalls, caps, cloths and towels have ad-

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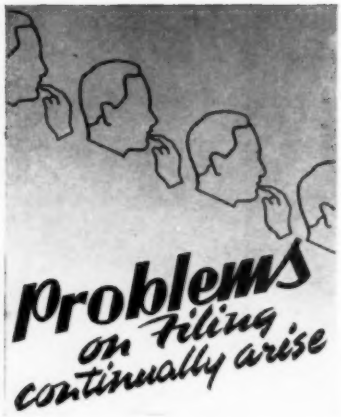

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vanced—in fact it would be hard to find anything in the canteen which has not gone up in price. The important thing is to tell the workers what has happened.

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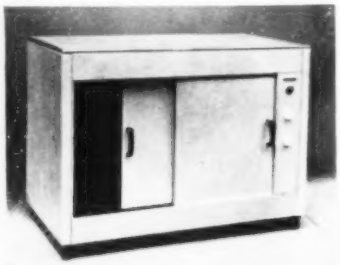

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AIRCRAFT COSTING PROBLEMS

Continued from page 59

every day) sends the cards to the wages office. The clock cards and job record cards show clockings, total hours worked, rate, and bonus. The last figure has been worked out on the previous Thursday and is the one shown on the slip described in the references to the punched card department.

The wages office extend the piece-work and time work in the amount column, adding the figures together to get gross due, less deductions. After this the cards go in bundles of 45 (the number of entries on a wages sheet) and in clock number order to the punched card department. Here calculating machine operators work out total wages, total bonuses, total gross wages, and total deductions. This information is then transferred to punched cards, which are put through the tabulating machine in order to produce the wages deduction sheet. This is an analysis of the control figure for total deductions of each batch of cards.

The wages sheet is also done on the tabulating machine and shows the employer's contribution to National Insurance. This has been punched from the clock card, which bears a code number indicating the value of stamp to be bought. The other information shown in this tabulation includes clock number, permanent number, holiday credit, gross wages, income tax, total deductions and net wages—the last figure having been calculated by the tabulator itself. All information except income tax is taken direct from the clock cards.

When completed the wages sheets go back to the wages department, where clerks transfer *net* wages and tax figures from the sheets to the clock cards, and *net* wages from the clock cards to the wages envelopes.

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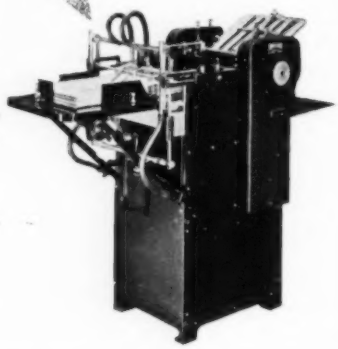

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Continued from page 51

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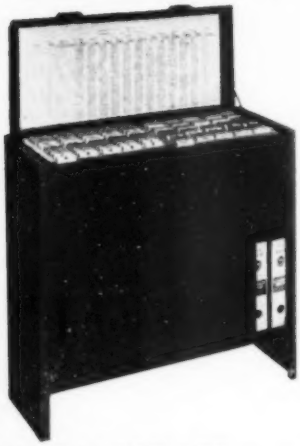

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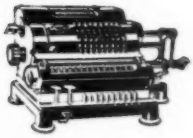

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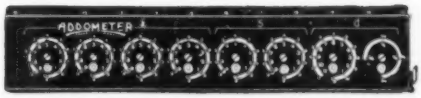

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